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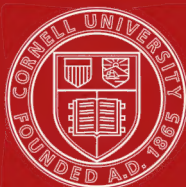
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COURT OF APPEALS.

IN THE MATTER OF THE APPLICATION OF THE NEW YORK,
LAKE ERIE AND WESTERN RAILROAD COMPANY, FOR
THE APPOINTMENT OF COMMISSIONERS TO EXAMINE THE PRO-
POSED ROUTE

OF

THE NEW YORK, LACKAWANNA AND WESTERN RAIL-
WAY COMPANY, IN THE COUNTY OF ERIE, NEW YORK STATE.

RETURN ON APPEAL.

MESSRS. SPRAGUE, MILBURN & SPRAGUE,

*Attorneys for the Petitioner and Appellant, The New York, Lake Erie and
Western Railroad Co.*

MESSRS. BOWEN, ROGERS & LOCKE,

*Attorneys for the Respondent, The New York, Lackawanna and Western
Railway Co.*

MESSRS. GREENE, McMILLAN & GLUCK,

Attorneys for the Lake Shore and Michigan Southern Railway Co.

MESSRS. MARSHALL, CLINTON & WILSON,

Attorneys for The New York Life Insurance and Trust Co.

HON. NELSON K. HOPKINS,

Attorney for the J. S. Wadsworth Estate.

MR. EDWARD C. HAWKS, *Attorney for the City of Buffalo.*

BUFFALO:
THE COURIER COMPANY, PRINTERS.

SUPREME COURT.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE, NEW YORK STATE.

Proceeding No. 2.

You will please take notice that the above-named Petitioner, the New York, Lake Erie and Western Railroad Company, hereby appeals to the Supreme Court of the State of New York from the decision of the Commissioners appointed in this proceeding by the order herein of the Hon. George Barker, one of the justices of said Supreme Court, dated the eighth day of July, 1881, which decision affirms the route originally designated by the New York, Lackawanna and Western Railway Company, in said county of Erie, as shown by the map, survey and profile accompanying the petition herein, and was filed in the office of the Clerk of the County of Erie, on the fifth of August, 1881, and from the whole and every part of said decision.

Dated Aug. 10, 1881.

SPRAGUE, MILBURN & SPRAGUE,

Attorneys for the Petitioner and Appellant,
The New York, Lake Erie and Western Railroad Co.,
No. 377 Main Street, Buffalo, N. Y.

To BOWEN, ROGERS & LOCKE, Esqs., Attorneys for the New York, Lackawanna and Western Railway Company; and to the County Clerk of the County of Erie; MARSHALL, CLINTON & WILSON, Esqs., Attorneys for the New York Life Insurance and Trust Co., Trustee; NELSON K. HOPKINS, Esq., Attorney for J. S. Wadsworth's Estate; GREENE, McMILLAN & GLUCK, Esqs., Attorneys for the Lake Shore and Michigan Southern Railway; E. C. HAWKS, Esq., Attorney for the City of Buffalo.

SUPREME COURT. 1

IN THE MATTER OF THE APPLICATION
OF THE NEW YORK, LAKE ERIE
AND WESTERN RAILROAD COM-
PANY FOR THE APPOINTMENT OF COM-
MISSIONERS TO EXAMINE THE PROPOSED
ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, NEW
YORK STATE.

2

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

John G. Milburn, being duly sworn, says that he is one of the firm of Sprague, Milburn & Sprague, attorneys for the above-named petitioner; that the object of this proceeding is to procure a change in the proposed route of the said The New York, Lackawanna and West- 3
ern Railway Company, as located by their map, filed in the office of the Clerk of Erie county, on the nineteenth day of May, 1881, to a route proposed by the said petitioner, and in the manner set forth in the petition in this proceeding, a copy of which is hereto annexed; that it is only within the past three days that the engineers of the petitioner have been able, with the greatest diligence, to locate said proposed change of route so that the names of the owners and occupants of lands to be affected thereby could be ascertained.

4 That Louisa Troup, who resides at 218 Fifth avenue,
in the city of New York, State of New York, is a part
owner of certain of the real estate affected by said
change of route proposed by the petitioner herein ; that,
as deponent is informed and believes, said Louisa Troup
is over the age of eighty years, is confined to her room
in her said place of residence, is in ill health and is men-
tally incapable of attending to any business, and, as de-
ponent is informed and believes, the mental and physical
5 condition of said Louisa Troup is such that personal ser-
vice of the petition and notice of presentation thereof in
this proceeding cannot be made upon her ; that the in-
formation of deponent as to the facts herein stated about
said Louisa Troup is derived from John B. Pine and
James Stikeman, of the city of New York, who are
acquainted with said facts.

Deponent further says that Sarah H. Babcock is a part
owner of one of the parcels of land affected by said
6 change of route proposed by your petitioner, and that
said Sarah H. Babcock is over the age of twenty-one
years, and resides in Oakland, in the State of California.

Deponent further says that Frederick B. Winthrop,
Egerton L. Winthrop, Jr., and Charlotte T. B. Win-
throp are also part owners of a certain piece of land af-
fected by said change of route proposed by your peti-
tioner ; that each of said last-named persons are infants,
7 each of them being over the age of fourteen years, and
that said Egerton L. Winthrop, Jr., and Frederick B.
Winthrop reside at Eton, England, and that said Char-
lotte T. B. Winthrop resides at Paris, France, and that
Egerton L. Winthrop is the father and general guardian
of said last-named three infants, and that he resides
in said city of Paris, France, his post-office address being
care of Drexel, Hayes & Company, Paris, France.

Deponent further says that James S. Wadsworth and
Craig W. Wadsworth are part owners of one of the par-

cels of land affected by said change of route proposed by your petitioner; that each of said last-mentioned infants are under the age of fourteen years; and that they reside with their mother, Evelyn W. Wadsworth, who is their general guardian, at Bath, Berkely Springs, in the State of Virginia, as deponent is informed and believes; that deponent derived his information of said facts as to said James S. and Craig W. Wadsworth from Colonel John R. Strong, attorney for the estate of said James S. Wadsworth, through whom said infants derived their interest.

Deponent further says that Cornelia R. Wilcox is a part owner of one of the parcels of land affected by the said proposed change of route, and that she, the said Cornelia, is an infant under the age of fourteen years, and resides in the city of Buffalo, aforesaid, with Ansley Wilcox, who is her father and general guardian.

That, as deponent is informed and believes, John Conners is a part owner of one of the parcels of land affected by the said proposed change of route, and that the said Conners is a lunatic and insane, and is at present, and for the last three years has been, confined in the asylum for the insane at Buffalo; that the wife of said John Conners now resides on the said premises owned by Conners affected by said proposed change of route; that deponent's information as to said facts herein stated concerning said Conners is derived from the said wife of said Conners.

Deponent further says that Charles Flynn is the owner of a parcel of land affected by said proposed change of route, and that said Flynn is now and for a long time past has resided in the city of Chicago, in the State of Illinois, where he is at work, his residence being ———; that the wife of said Charles Flynn now resides on the premises owned by said Flynn affected by said proposed change of route; that deponent's infor-

12 mation as to said facts herein stated concerning said Flynn is derived from his said wife of said Flynn.

That since the nineteenth day of May, 1881, when the notice of the filing of the map of the said The New York, Lackawanna and Western Railway Company was served on the petitioner herein, deponent and all the members of said firm have used the greatest diligence in this proceeding to ascertain the names and place of residence of the owners or occupants of the land affected
13 by the said proposed change of route, and that it is only within the last two days that deponent has been able to ascertain the facts stated in this affidavit as to said several parties herein set forth.

Deponent further says that it will be impossible to procure personal service of said papers on said persons on or before the third day of June, 1881; that the fifteen days within which said papers are required by the statute to be served expires on the third day of June
14 instant.

Deponent further says that he desires an order directing that the service required by statute of the petition, map, profile and survey, together with a notice of the application for the appointment of commissioners to examine said proposed route, and the route to which the petitioner herein desires to change the same, may be served upon said Louisa Troup and John Conners, and
15 on said non-resident and infant parties by mail, or as the court shall direct, and that the time and place for the hearing of said application be fixed as the fifth day of July, 1881, at the chambers of this court, in the City and County Hall, in the city of Buffalo.

Deponent further says that he verily believes that the interests of all of said parties will be protected by the making of such an order, for the reason that in each instance where such an order would affect the right of parties in any particular piece of land, some party in-

terested therein has been personally served with the 16
exception of said Flynn's and Conners' said parcel of
land.

That in the Troup estate, The New York Life Insurance and Trust Company of New York are the trustees of the estate of Charlotte Brinckerhoff, deceased, through whom the said three Winthrops hereinbefore above named acquire title, and will be personally served with said petition, map, survey and profile and notice to-day, as deponent verily believes, and will, in all probability, take all necessary steps to protect the rights and 17
interests of said infant non-residents.

That in the estate of James S. Wadsworth, deceased, through whom the Wadsworths heirs hereinabove named acquire title to the premises affected by these proceedings, Mr. Nelson K. Hopkins of this city has been duly authorized by said estate to appear herein and protect the rights and interests of said estate. 18

That in the estate of George R. Babcock, deceased, through whom the said Sarah H. Babcock acquires title, Mr. Dennis R. Alward, of Auburn, who is trustee to execute the trusts created by the will of George R. Babcock, deceased, and also trustee to execute the trusts created by the will of Mary B. Babcock, deceased, and also Emily B. Babcock, who is the owner of an undivided one-half of the premises hereby affected, will be personally served with said petition, map, survey, profile 19
and notice to-day, as deponent verily believes, and that the said Alward will, in all probability, appear and protect the interests of all parties in the said Babcock estate.

Deponent further says that his firm, the attorneys for the petitioner herein, reside and have their office in the city of Buffalo aforesaid; and that no previous applica-

tion for an order to be applied for on this affidavit has been made to any court or judge.

JOHN G. MILBURN.

Subscribed and sworn to before me, }
this third day of June, 1881. }

W. H. BRADISH,

Notary Public, Erie county, N. Y.

A Copy.

J. E. EWELL,

Dep. Clerk.

21

At a Special Term of the Supreme Court of the State of New York, held in and for the county of Erie, at the City and County Hall in the city of Buffalo, in said county, on the 3d day of June, 1881:

Present—HON. ALBERT HAIGHT, Justice.

22

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

23

On reading and filing the affidavit of John G. Milburn, verified on the 3d day of June, 1881, and on motion of John G. Milburn, of counsel for the petitioner in this proceeding:

It is ordered that a copy of the petition of the petitioner in this proceeding, verified on the 1st day of June, 1881, with a notice of its presentation and the application for the appointment of commissioners in said petition prayed for, to the Honorable Albert Haight, or any other Justice of the Supreme Court, who may then be

present at the chambers of the justices of the said Supreme Court in the City and County Hall in the city of Buffalo, in the said county of Erie, on the 5th day of July, 1881, at ten o'clock in the forenoon of that day, and a copy of the map, profile, and surveys required by the statute in such case made and provided, referred to in said petition, be served on Louisa Troup, mentioned and described in the affidavit upon which this order is granted, by depositing a copy thereof, to wit, of said notice, petition, map, survey and profile, in the post-office at the city of Buffalo aforesaid, on the 3d day of June, 1881, properly folded and directed to said Louisa Troup at her residence, number 218 Fifth avenue, in the city of New York, the postage chargeable thereon in the United States to be prepaid. 24 25

It is further ordered that a copy of the said petition, map, surveys, and profile hereinbefore mentioned, and a notice of the presentation of said petition, and the application for the appointment of commissioners as prayed therein, in all respects similar to the notice hereinbefore directed to be served on said Louisa Troup, be served on Sarah H. Babcock, named in the affidavit on which this order is granted, by depositing a copy thereof on the 3d day of June, 1881, in the said post-office, in the city of Buffalo aforesaid, properly folded and directed to said Sarah H. Babcock, at Oakland, California, the postage chargeable thereon in the United States to be prepaid. 26 27

It is further ordered that a copy of the said petition, map, surveys and profile hereinbefore mentioned, and a notice of the presentation of said petition, and the application for the appointment of commissioners as prayed therein, in all respects similar to the notices hereinbefore mentioned, be served on Frederick B. Winthrop, Eger-ton L. Winthrop, Jr., and Charlotte T. B. Winthrop, mentioned and described in the affidavit on which this

28 order is granted, by depositing a copy thereof in the post-office at said city of Buffalo, on the 3d day of June, 1881, properly folded and directed to Egerton L. Winthrop, general guardian of Frederick B. Winthrop, Egerton L. Winthrop, Jr., and Charlotte T. B. Winthrop, care of Drexel, Hayes & Co., Paris, France, the postage chargeable thereon in the United States to be prepaid.

It is further ordered that a copy of the said petition, map, surveys and profile hereinbefore mentioned, and a
 29 notice of the presentation of said petition and the application for the appointment of commissioners as prayed therein in all respects similar to the notices hereinbefore mentioned, be served on Craig W. Wadsworth and James S. Wadsworth, mentioned and described in the affidavit on which this order is granted, by depositing a copy thereof on the 3d day of June, 1881, in the post-office at said city of Buffalo, properly folded and directed to Evelyn W. Wadsworth, guardian of Craig W. Wadsworth and James S. Wadsworth, Bath, Berkely Springs,
 30 Virginia, the postage chargeable thereon in the United States to be prepaid.

It is further ordered that a copy of said petition, map, surveys and profile hereinbefore mentioned, and a notice of the presentation of said petition and the application for the appointment of commissioners as prayed therein in all respects similar to the notices hereinbefore mentioned, be served on John Connors, mentioned and described in the affidavit upon which this order is granted,
 31 by delivering a copy thereof personally to — Connors, wife of said John Connors, at said city of Buffalo, on the 3d day of June, 1881, and leaving the same with her.

It is further ordered and directed that a copy of said petition, map, surveys and profile hereinbefore mentioned, and a notice of the presentation of said petition and the application for the appointment of commissioners as prayed therein, in all respects similar to the no-

tices hereinbefore described and mentioned, be served 32
on Charles Flynn, mentioned and described in the affidavit
on which this order is granted, by depositing on the
3d day of June, 1881, a copy thereof and said notice in
the postoffice at the said city of Buffalo, properly folded
and directed to said Charles Flynn, at Chicago, in the
State of Illinois, the postage chargeable thereon in the
United States to be prepaid, and that in addition thereto
a copy thereof and said notice be personally delivered to
— Flynn, the wife of said Charles Flynn, at said city 33
of Buffalo, on said 3d day of June, 1881, and be left with
her.

It is further ordered and directed that a copy of said
petition, map, surveys and profile, and a notice of the
presentation of said petition and the application for the
appointment of commissioners as prayed therein in all
respects similar to the notice hereinbefore described and
mentioned, excepting that the same be made returnable
before the honorable Albert Haight, or any one of the 34
justices of the Supreme Court who shall then be pres-
ent at the chambers of the justices of the Supreme
Court at the City and County Hall, at the city of Buf-
falo, on the 13th day of June, 1881, be served on Cor-
nelia R. Wilcox, mentioned and described in the affidavit
on which this order is granted, by delivering on the 3d
day of June, 1881, a copy of the same and said notice to
Ansley Wilcox, her general guardian, at the city of Buf-
falo, and leaving the same with him. 35

It is further ordered that it be indorsed on each of the
petitions to be served as directed in this order, that the
same is served in pursuance of an order of the Supreme
Court of the State of New York, made in the above-
entitled proceeding on the 3d day of June, 1881.

It is further ordered that service upon the parties
herein mentioned as herein directed shall be deemed
sufficient service of the petition, map, profile and survey,

36 and said notice of presentation thereof, and shall be deemed a full compliance with the statute in such case made and provided.

SUPREME COURT.

37 IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE
OF
THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE, STATE OF NEW
YORK.

38 Please take notice, that we have been retained by, and hereby appear for, The Lake Shore and Michigan Southern Railway Company, in the above-entitled matter, and demand that copies of all papers therein be served upon us at our office, in the city of Buffalo, county of Erie, N. Y.

Dated, June 13, 1881.

Yours, etc.,

39 GREENE, McMILLAN & GLUCK,
Attorneys for The Lake Shore & Michigan Ry. Co.,
No. 24 West Seneca St., Buffalo, N. Y.

To SPRAGUE, MILBURN & SPRAGUE,
Attorneys for the Petitioner.

SUPREME COURT.

40

IN THE MATTER OF THE APPLICATION OF
THE N. Y., L. E. & W. R. R. CO., FOR
THE APPOINTMENT OF COMMISSIONERS
TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

41

You will please take notice that I have been retained by and hereby appear for the James S. Wadsworth estate in the above-entitled proceeding, and all papers therein may be served upon me at my office in the city of Buffalo, N. Y.

Dated June 6, 1881.

N. K. HOPKINS,

Attorney for J. S. Wadsworth Estate. 42

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

John G. Milburn, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of twenty-one years; that on the 3d day of June, 1881, at No. 377 Main street, in said city of Buffalo, he served the annexed notice, petition, map, profiles and surveys, on Cornelia R. Wilcox, by delivering a copy of said notice, petition, maps, profiles and surveys to Ansley Wilcox, the general guardian of said Cornelia R. Wilcox personally, and leaving the same with him. 43

That, it was indorsed on the copy of said notice, petition, map, surveys and profiles so delivered to and left

44 with said Ansley Wilcox as such general guardian, that the same were served in pursuance of an order of the Supreme Court of the State of New York, made in the within entitled proceeding on the 3d day of June, 1881.

Deponent further says that he knew the said Ansley Wilcox to be the general guardian of said Cornelia R. Wilcox, who is an infant under the age of fourteen years, and one of the owners of the piece or parcel of land designated on the map annexed to said petition as owned
45 by the Mary Rumsey estate.

JOHN G. MILBURN.

Subscribed and sworn to before }
me, this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public, Erie county, N. Y.

46 STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

John G. Milburn, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of eighteen years; that on the 3d day of June, 1881, at the office of the mayor, in the City and County Hall in the city of Buffalo, in the county of Erie and State of New York, he served the annexed notice, petition, map, surveys and profiles
47 on the city of Buffalo, by delivering a copy of said notice, petition, map, profiles and surveys to Alexander Brush, the mayor of said city, personally, and leaving the same with him.

Deponent further says that he knew the said city of Buffalo so served to be one of the parties mentioned in said petition as owners of lands to be affected by the proposed change of the route of the New York, Lackawanna and Western Railway Company referred to in said petition, and that he knew the said Alexander Brush

to be the mayor of said city of Buffalo, at the aforesaid 48
date of service. JOHN G. MILBURN.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public in and for Erie county.

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides 49
in the city of Buffalo, county of Erie and State of New
York, and is over the age of eighteen years; that on
the 3d day of June, 1881, at the places hereinafter
mentioned, he served the annexed notice, petition, map,
profiles and surveys, on the following named persons,
being five of the persons named in said petition, to wit:
On James McBride, at No. 2 Monitor street, Buffalo, N.
Y.; on Thomas Sully, at Ohio street, Buffalo, N. Y.; on
Katharine R. Bemis, at 140 East Eagle street, Buffalo, 50
N. Y.; on Thomas Hennesy, at 56 Hamburg street,
Buffalo, N. Y.; on Patrick Reagan, at 13 Excelsior
street, Buffalo, N. Y.; by delivering a copy of said notice,
petition, map, profiles and surveys to each of the said
persons personally and leaving the same with them.

Deponent further says that he knew the persons so
served to be five of the persons who are mentioned and
described in said petition as owners of lands affected
by the proposed change of the route of the New York, 51
Lackawanna & Western Railway Company, mentioned
and described in said petition, being the same James
McBride, Thomas Sully, Katharine R. Bemis, Thomas
Hennesy, and Patrick Reagan, in said petition men-
tioned.

JAMES SUTTON.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public in and for Erie county, N. Y.

52 STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of eighteen years ; that on the 2d day of June, 1881, at the corner of Ohio and Mississippi streets, in the city of Buffalo, in the county of Erie and State of New York, he served the annexed notice, petition, map, surveys and profiles on Roger Sweeney, 53 by delivering a copy of said notice, petition, map, profiles and surveys to him personally and leaving the same with him.

Deponent further says that he knew the person so served to be one of the persons who are mentioned and described in said petition as owners of lands affected by the proposed change of the proposed route of the New York, Lackawanna & Western Railway Company mentioned and described in said petition, being the same 54 Roger Sweeney mentioned in said petition.

JAMES SUTTON.

Subscribed and sworn to before me, {
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public in and for Erie county.

55 STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of nineteen years ; that on the 2d day of June, 1881, at near to 134 Abbott road in the city of Buffalo, in the county of Erie and State of New York, he served the annexed notice, petition, map, surveys and profiles on William Savage, as owner of lot 182, and as occupant of lot 180, owned by the G. R. Bab-

cock estate, and as occupant of lot 183 owned by the 56
Robert Bayard estate, and as occupant of lot 187 owned
by the James S. Wadsworth estate, and as occupant of
lot 188 owned by the Robert Troup estate, all of which
lots are designated by their numbers on the map annexed
to the petition hereto annexed, by delivering a copy of
said notice, petition, map, profiles and surveys to him
personally, and leaving the same with him, and that said
copy of said notice, petition, map, profiles and surveys
so served on said William Savage, were by an indorse- 57
ment on the back thereof directed to said Savage indi-
vidually and as occupant of said lands belonging to said
G. R. Babcock, Robert Bayard, James S. Wadsworth
and Robert Troup estates.

Deponent further says, that he knew the person so
served to be one of the persons who are mentioned and
described in said petition, and designated on said map
as owners of lands affected by the proposed change of 58
the proposed route of the New York, Lackawanna &
Western Railway Company mentioned and described in
said petition, being the same William Savage in said
petition mentioned; and also to be the person, who is, as
deponent is informed and believes, the sole occupant of
said lands belonging to said Robert Troup, G. R. Bab-
cock, Robert Bayard and James S. Wadsworth estates.
That deponent derives his information as to said Savage
being the occupant of said last-mentioned lands from said 59
Savage personally, and from an affidavit made by said
Savage, a copy of which is hereto annexed and made a
part of this affidavit.

JAMES SUTTON.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public, Erie county, N. Y.

60 STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

William Savage, being duly sworn, says he resides in Buffalo, Erie county, and State of New York; that he is a tenant of the Robert Troup estate on lands mentioned and described in a map and profile and proposed change of route of the New York, Lackawanna and Western Railway Company, made by the Lake Shore and Michigan Southern Railway Company and
61 also by the New York, Lake Erie and Western Railway Company, and designated on said map as lot No. 6; that he is also a tenant of the George R. Babcock estate on lands mentioned and described in said map and profile as lot No. 1; that he is also a tenant of the Robert Bayard estate on lands mentioned and described in said map and profile as lot No. 4; that he is also a tenant of the James S. Wadsworth estate on lands mentioned and described in said map and profile as lot No. 5; that as such tenant he
62 has occupied said lands mentioned as such tenant for sixteen years last past, and now occupies them as such; that during all of said time he has paid rent on said several pieces to the agents thereof and of each of them except upon the Bayard estate lot, and that he has not known for the four years last past as to who represents the said Bayard estate; that all of said property during said time mentioned has been and still is in possession of this deponent under lease from the representatives of
63 each of said estates respectively.

That said map or copy thereof is annexed to this affidavit, and is hereby referred to and forms a part of this affidavit.

That there are no other tenants on either of said pieces mentioned except this deponent.

WILLIAM SAVAGE.

Subscribed and sworn to before me }
this 13th day of June, 1881. }

CHARLES A. POOLEY,

Notary Public, Erie Co., N. Y.

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

64

Joseph A. Milburn, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of eighteen years; that on the 3d day of June, 1881, at their residence in the city of Auburn, in the county of Cayuga and State of New York, he served the annexed notice, map, surveys and profile, on Dennis R. Alward as trustee of the estate of George R. Babcock, deceased, and as trustee of the 65 estate of Mary B. Babcock, deceased, and on Emily B. Alward by delivering a copy of said notice, petition, map, profile and surveys to each of said persons personally and leaving the same with them; and that the copy of said notice, petition, map, surveys and profile so served on said Dennis R. Alward were directed by an indorsement upon the back thereof to said Dennis R. Alward as trustee of the estate of George R. Babcock, deceased, and as trustee of the estate of Mary B. Babcock, 66 deceased. Deponent further says that he knew the persons so served to be two of the persons who are owners and interested in the Babcock estate mentioned in said petition as one of the owners of land affected by the proposed change of the proposed route of the New York, Lackawanna and Western Railway Company mentioned and described in said petition, and that he knew said Dennis R. Alward to be the same person who is trustee of the estate of 67 George R. Babcock deceased, and trustee of the estate of Mary B. Babcock, deceased, and that the said Alward is such trustee.

JOSEPH A. MILBURN.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

THOS. BATH,

Notary Public, Erie County.

68 STATE OF NEW YORK, }
 COUNTY OF NEW YORK, } ss.

Charles C. Marble, being duly sworn, says that he resides in the city of New York, county and State of New York, and is over the age of eighteen years; that at No. 50 Wall street, in the city of New York, in the county and State of New York, on the 3d day of June, 1881, he served the annexed notice, petition, map, surveys and profile on The New York Life Insurance and Trust Company as trustees of the estate of Charlotte Brinckerhoff, deceased, by delivering a copy of said notice, petition, map, profile and surveys to Henry Parish, the president of said New York Life Insurance and Trust Company, personally and leaving the same with him on the day at the place aforesaid.

Deponent further says that he knew the said Henry Parish to be the president of said New York Life Insurance and Trust Company, and that the copy of said notice, petition, map, surveys and profile so served and directed by an indorsement on the back thereof to said New York Life Insurance and Trust Company as trustee of the estate of Charlotte Brinckerhoff, deceased.

Deponent further says that at number 218 Fifth Avenue, in the city of New York aforesaid, on the 3d day of June, 1881, he served the annexed notice, petition, map, surveys and profile on Louisa Troup by delivering a copy of said notice, petition, map, profile and surveys to her personally and leaving the same with her.

Deponent further says that he knew the corporation and the person so served to be two of the owners of and two of the persons interested in the Robert Troup estate mentioned in said petition as one of the owners of lands affected by the proposed change of the proposed route of

the New York, Lackawanna and Western Railway Com- 72
pany mentioned and described in said petition.

CHARLES C. MARBLE.

Subscribed and sworn to before me, {
this 10th day of June, 1881. }

HANSEN H. SMITH,

Notary Public, N. Y. Co.

STATE OF NEW YORK, {
COUNTY OF ERIE, } ss.

73

John R. Newton, being duly sworn, says he resides in the village of Angola, county of Erie, and State of New York, and is over eighteen years of age. That on the third day of June, 1881, at the city of Buffalo, N. Y., he served the annexed petition, map, survey, profile and notice, on the Union Iron Company of Buffalo, being one of the parties named in the petition, map, surveys, profile and notice aforesaid, by delivering a copy of the 74 same to and leaving a copy of the same with George Beals, treasurer of said Union Iron Company of Buffalo, personally, and this deponent further says that he knew the person so served to be the treasurer of the said Union Iron Company of Buffalo, one of the parties affected by the proposed route mentioned and described in said petition, map, survey, profile and notice.

J. R. NEWTON.

Sworn to before me, {
June 10, 1881. }

75

CHARLES A. POOLEY,

Notary Public, Erie Co., N. Y.

STATE OF NEW YORK, {
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New

76 York, and is over nineteen years of age; that he was present on the 2d day of June, 1881, at No. 179 Hamburg street, in said city of Buffalo, when the annexed admission of service was signed by Margaret Roach; that said Margaret Roach was, as she stated, unable to write, and requested this deponent to write her name for her to said admission, which deponent then did, and the said Margaret Roach then and there acknowledged said signature as hers and affixed her mark
 77 to the same in the presence of deponent; that deponent knew said Margaret Roach who subscribed said admission to be one of the persons who are mentioned and described in the petition in said admission mentioned and described as owners of lands affected by the proposed change of the proposed route of the New York, Lackawanna and Western Railway Company mentioned and described in said petition; being the same Margaret Roach in said petition mentioned.

78

JAMES SUTTON.

Subscribed and sworn to before me, {
 this 13th day of June, 1881. }

W. H. BRADISH,

Notary Public, Erie county, N. Y.

STATE OF NEW YORK, {
 COUNTY OF ERIE, } ss.

79

John G. Milburn, being duly sworn, says that he resides in the city of Buffalo, county of Erie and State of New York, and is over the age of twenty-one years; that he saw Mary A. Dennison, whose name is subscribed to the annexed admission of service, sign the same, and that the same was signed at the residence of said Mary A. Dennison, No. 317 Swan street, in the said city of Buffalo; that as deponent is informed and believes, the said Mary A. Dennison is the same person who is de-

scribed and mentioned in the petition and map in said admission referred to as Mary A. Langanhadir, one of the owners of lands affected by the proposed change of the proposed route of the New York, Lackawanna and Western Railway Company described in said petition; that the name of said person by a second marriage is Mary A. Langanhadir, but that she has assumed her first marriage name of Mary A. Dennison, and now goes and is known by that name; and that deponent's information as to said facts was derived from said Mary A. Dennison herself in conversation with her. 80 81

Deponent further says that he knew the person who signed said admission as Mary A. Dennison to be the person who owns the lands designated on said map as owned by Mary A. Langanhadir.

Deponent further says that at No. 311 Main street, in said city of Buffalo, he saw Henry W. Box, whose name is subscribed to the annexed admission of service, sign the same, and that said Henry W. Box, who signed said admission, is the person of that name mentioned and described in the petition and map referred to in said admission as one of the owners of lands affected by the said proposed change of the said proposed route of the New York, Lackawanna and Western Railway Company. 82 83

JOHN G. MILBURN.

Subscribed and sworn to before me, {
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public, Erie county, N. Y.

84 SUPREME COURT.

IN THE MATTER OF THE PETITION OF
 THE NEW YORK, LAKE ERIE AND
 WESTERN RAILROAD COMPANY
 FOR THE APPOINTMENT OF COMMISSION-
 ERS TO EXAMINE THE PROPOSED ROUTE
 OF
 85 THE NEW YORK, LACKAWANNA
 AND WESTERN RAILWAY COM-
 PANY.

We, the undersigned, each admit due and personal
 service upon each of us respectively, at the city of Buf-
 falo, N. Y., on the 2d day June, 1881, of a copy of the
 petition, notice of presentation thereof, surveys, map and
 86 profiles hereto annexed, which petition and notice are
 dated the 1st day of June, 1881.

Dated, June 2d, 1881.

MRS. MARGARET^{Her} + ROCHE,
 Mark.

179 Hamburgh street.

Witness, James Sutton.

87

MARY A. DENNISON,

317 Swan street.

HENRY W. BOX,

311 Main street.

SUPREME COURT.

88

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

89

STATE OF NEW YORK, }
ERIE COUNTY, } ss.

Ansley Wilcox, being sworn, says that he resides in the city of Buffalo; that he is well acquainted with Mary Grace Rumsey, of said city, whose name is subscribed to the annexed admission of service of the annexed petition, map, profile, and survey and notice of presentation, and with her signature; that he was present 90 and saw her sign said admission at her residence, No. 742 Delaware avenue, in the city of Buffalo, on the 3d day of June, 1881, and that deponent also subscribed his name thereto on said day.

Deponent further says that he is informed and believes that said papers were served on him and on said Mary Grace Rumsey, as representatives of the estate of Mary Rumsey, deceased; that he is well acquainted with the real property lying between Miami and Mackinaw 91 streets, and 156 65-100 feet west of Hamburg street, in said city of Buffalo, which is referred to in the maps and in the petition in this proceeding as belonging to Mary Rumsey or to the estate of Mary Rumsey, and that the present owners of said property are the said Mary Grace Rumsey, who owns an undivided one-half part thereof, this deponent who owns a life estate in the other one-half part thereof, and Cornelia R. Wilcox, who owns the remainder in the said second one-half part of said prop-

erty; and that said Cornelia R. Wilcox is an infant and a daughter of deponent, and that deponent is her general guardian.

ANSLEY WILCOX.

Subscribed and sworn to before }
me, June 4, 1881. }

W. H. BRADISH,
Notary Public, Erie county, N. Y.

93 SUPREME COURT.

IN THE MATTER OF THE APPLICATION
OF THE NEW YORK, LAKE ERIE
AND WESTERN RAILROAD COM-
PANY FOR THE APPOINTMENT OF COM-
MISSIONERS TO EXAMINE THE PROPOSED
ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

94

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

Frank F. Williams, being duly sworn, says that he resides in the city of Buffalo, county and State aforesaid, and is more than twenty-one years of age; that he knows the signature of Franklin Lee affixed to the annexed admission of service to be that of the Frank Lee mentioned in the annexed petition and notice, and that the said signature was affixed to said admission of service at the residence of said Frank Lee, number 165 North street, in said city of Buffalo, on the 2d day of June, 1881, in the presence of deponent.

FRANK F. WILLIAMS.

Subscribed and sworn to before }
me, June 2, 1881. }

W. H. BRADISH,
Notary Public, Erie county, N. Y.

I, Jonathan Sidway, of the city of Buffalo, N. Y., 96
 hereby admit due and personal service of the annexed
 petition, map, survey, profile and notice, upon me this
 3d day of June, 1881, at No. 188 Main street, in said
 city of Buffalo, which said petition is verified the 1st day
 of June, 1881, and is noticed for a hearing at the cham-
 bers of the Supreme Court, at the City and County Hall,
 in the city of Buffalo, on the 13th day of June, 1881.

JONATHAN SIDWAY.

97

SUPREME COURT.

IN THE MATTER OF THE APPLICATION
 OF THE NEW YORK, LAKE ERIE
 AND WESTERN RAILROAD COM-
 PANY FOR THE APPOINTMENT OF COM-
 MISSIONERS TO EXAMINE THE PROPOSED
 ROUTE

OF

THE NEW YORK, LACKAWANNA
 AND WESTERN RAILWAY COM-
 PANY.

98

We, the undersigned, each admit due and personal
 service upon each of us respectively of a copy of the pe-
 tition and notice in the above-entitled proceeding, dated
 the 1st day of June, 1881, which are hereto annexed, and
 also of the surveys, maps and profiles annexed to said
 petition this 2d day of June, 1881, at the city of Buffalo, 99
 N. Y.

Dated June 2, 1881.

Where served:

165 North street.

692 Main street.

742 Delaware avenue.

381 Main street.

FRANKLIN LEE.

ESTHER A. GLENNY.

MARY GRACE RUMSEY.

ANSLEY WILCOX.

100 SUPREME COURT.

IN THE MATTER OF THE APPLICATION
OF THE NEW YORK, LAKE ERIE
AND WESTERN RAILROAD COM-
PANY FOR THE APPOINTMENT OF COM-
MISSIONERS TO EXAMINE THE PROPOSED
ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

101

*To the New York, Lackawanna and Western Rail-
way Company, and each of the persons named in
the Petition as owners of lands affected by the alter-
ation of route therein proposed, or the occupants of
such lands :*

You and each of you will take notice, that the petition
of the New York, Lake Erie and Western Railroad
102 Company, verified on the 1st day of June, 1881, together
with the survey, map and profile accompanying the
same, with copies of which you are herewith served, will
be presented to the Hon. Albert Haight, one of the
justices of the Supreme Court of the State of New
York, or such other justice of such court as may then be
present, at the chambers of the justices of said Su-
preme Court, in the City and County Hall at the city of
Buffalo, in the county of Erie, State of New York, on
103 Monday, the 13th day of June, 1881, at ten o'clock in
the forenoon of that day, or as soon thereafter as counsel
can be heard, and that an application will then and
there be made that the prayer of said petition be
granted.

Dated June 1, 1881.

Yours, etc.,

SPRAGUE, MILBURN & SPRAGUE,

Attorneys for Petitioner,

Office address, 377 Main street, Buffalo, N. Y.

SUPREME COURT.

104

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE, NEW YORK STATE.

105

*To the Hon. Albert Haight, or any of the other justices
of the Supreme Court of the State of New York,
in the Eight Judicial District :*

The petition of the New York, Lake Erie and Western
Railroad Company respectfully shows :

That your petitioner is a corporation duly organized
and existing under and in pursuance of an act of the
Legislature of the State of New York, entitled "An act 106
to facilitate the reorganization of railroads sold "under
mortgage, and providing for the formation of new com-
panies in such cases," passed May 11, 1874, and the acts
amendatory thereof and supplementary thereto, and as
such corporation is engaged in the operation of a rail-
road between Jersey City, in the State of New Jersey,
and the city of Buffalo, in said county of Erie, and
which said railroad extends into the said city of Buffalo ;
that the certificate of incorporation of your petitioner, 107
in due form, was filed in the office of the Secretary of
State, of the State of New York, and your petitioner
became a body corporate pursuant to the act before
mentioned, on or about the twenty-seventh day of April,
1878.

Your petitioner further states that the Buffalo, New
York and Erie Railroad Company is a corporation duly

98 organized and incorporated under and in pursuance of
 an act of the Legislature of the State of New York,
 entitled "An Act to authorize the formation of railroad
 companies and to regulate the same," passed April 2,
 1850, and the acts amendatory thereof and in addition
 thereto; that said last-mentioned company constructed
 and finished, and is now the owner of, a railroad extend-
 ing from the village of Corning, in the county of
 Steuben, to said city of Buffalo, being the termini
 109 named in the articles of incorporation of that company;
 that the said railroad of the company last mentioned
 joins and unites with the railroad owned by your peti-
 tioner, in the village of Attica, in the county of Wyom-
 ing; that your petitioner is the lessee of said railroad of
 said Buffalo, New York and Erie Railroad Company
 and all its appurtenances, and is now, and for several
 years last past has been, engaged in running and operat-
 ing the same, and now has and for several years last past
 110 has had possession of the same as such lessee as aforesaid;
 and that said last-mentioned railroad is the line of rail-
 road operated by your petitioner, from the village of
 Attica aforesaid, to and into the city of Buffalo, as part
 of its said railroad extending from the said Jersey City,
 to and into the said city of Buffalo.

Your petitioner further states that heretofore and
 within fifteen days prior to the date hereof, to wit, on
 the nineteenth day of May, 1881, a written notice
 111 was served on Augustus R. McDonough, the secretary
 of your petitioner, directed to H. J. Jewett, president of
 the New York, Lake Erie and Western Railroad Com-
 pany, which notice was dated the nineteenth day of May,
 1881, was signed by the secretary of the New York,
 Lackawanna and Western Railway Company, and was
 to the effect that a map and profile of the route intended
 to be adopted by the New York, Lackawanna and
 Western Railway Company, in the county of Erie, cer-

tified in due form of law by the president and engineer 112
of said company, was on the nineteenth day of May, 1881,
duly filed in the office of the county clerk of the county
of Erie, and that the said route designated thereby
passes over the land of your petitioner or over land
actually occupied by it, situated in the said city of
Buffalo, in said county of Erie.

Your petitioner further states that the routes intended
to be adopted by said New York, Lackawanna and
Western Railway Company particularly designated by 113
said map and profile, as routes or lines A and B pass
over the railroad lands and tracks occupied by your
petitioner, in said city of Buffalo, as lessee as aforesaid
of said Buffalo, New York and Erie Railroad Company,
at the point designated on the map hereto annexed and
accompanying this petition; being lands and tracks in
use by your petitioner for its railroad purposes, and
necessary thereto; and that said lands and tracks are
part of the said railroad owned as aforesaid by the Buffalo, 114
New York and Erie Railroad Company.

Your petitioner further states that it objects to the
said proposed routes of said New York, Lackawanna
and Western Railway Company, in the county of Erie
aforesaid, designated by said map and profile filed as
aforesaid by said New York, Lackawanna and Western
Railway Company as routes or lines A and B, or to
those portions of said routes described in the survey 115
thereof accompanying this petition, feeling aggrieved
thereby; and that the following are your petitioner's
objections to the same.

First. The said proposed route crosses at grade the
tracks of said railroad, owned by the Buffalo, New
York and Erie Railroad Company and occupied by
your petitioner as lessee as aforesaid, said tracks being
the main freight line and freight tracks of your petitioner,
in the city of Buffalo, aforesaid, over which is trans-

116 ported a very large and increasing freight traffic; and that said grade crossing will greatly increase the danger and expense of operating both railroads, and seriously impede the transaction of their business.

Second. At the point of said crossing, the tracks of the Lake Shore and Michigan Southern Railway Company, and of your petitioner, form a system of railroad tracks where all freight cars which have to pass over both of said roads are transferred between said two last-
117 mentioned railways, the one being a western and the other an eastern railway; that said system of tracks is constantly in use for the making up and distribution of freight trains and the assortment of cars, and that a grade crossing by the New York, Lackawanna and Western Railway Company at that point would seriously embarrass and hinder, if not practically prevents the transaction of this business and greatly enhance the cost and expense thereof, and be the cause of great de-
118 lays and inconvenience to the public.

Third. These objections will be largely obviated by an alteration in the said routes A and B, designated by said New York, Lackawanna and Western Railway Company, which will carry the point of crossing further away from where the main exchange of cars between the Lake Shore and Michigan Southern Railway Company and your petitioner is carried on, and also by
119 making said crossing an overhead one, thus avoiding all the dangers, delays and expense of a grade crossing.

Your petitioner further states, that these several objections may be largely avoided and the interests of all parties and the public be subserved by changing and altering said proposed routes of the New York, Lackawanna and Western Railway Company, in the said city of Buffalo and county of Erie, designated on the said map and profile as lines or routes A and B, and that the

following are the routes to which it is proposed by your 120
petitioner to alter said proposed routes A and B of said
New York, Lackawanna and Western Railway Company:

First. Said proposed alteration of said route or line
A, commencing at a point in the city of Buffalo, in said
county of Erie, on lands owned by the estate of Mary
Rumsey, and in the center line of said route or line A
of the New York, Lackawanna and Western Railway
Company as designated by that company on its map filed
in the office of the Clerk of the county of Erie, which 121
point is numbered and designated on said map as station
161+82.6; running thence on a curve to the right with
a radius of two thousand seven hundred, seven and five-
tenths (2,707 5-10) feet, a distance of seven hundred and
thirty-seven and four-tenths (737 4-10) feet; thence on a
tangent south $44^{\circ} 06'$, east twelve hundred and forty-
three (1243) feet; thence on a curve to the left with a
radius of sixteen hundred and three and five-tenths
(1603 5-10) feet, a distance of seven hundred and eighty- 122
one (781) feet; thence on a curve to the right with a
radius of sixteen hundred and three and five-tenths
(1603 5-10) feet, a distance of five hundred and seventy-
eight and six-tenths (578 6-10) feet to a point in said
center line of said route or line A, designated by said
New York, Lackawanna and Western Railway Company,
numbered and designated on its said map as station
194+76 in said route or line A.

Second. Said proposed alteration of said route or line 123
B, commencing at station 183+94 in the above-described
center line; running thence on a curve to the left with
a radius of eight hundred and fourteen and four-tenths
feet, a distance of five hundred and ninety-four feet;
thence on a tangent north $85^{\circ} 26\frac{1}{2}'$, east eight hundred
and eight and seven-tenths (808 7-10) feet to a point in
said center line of said route or line B, designated by
said New York, Lackawanna and Western Railway

124 Company, numbered and designated on its said map as station 218+33.3 in said route or line B.

Your petitioner further states that the said alteration herein proposed by the New York, Lake Erie and Western Railroad Company of the said proposed routes A and B of said New York, Lackawanna and Western Railway Company will not cause greater damage or injury to lands or materially greater length of road than the said routes A and B, designated by said last-men-
 125 tioned company would cause, and that it will not substantially change the general line adopted by said last-mentioned company.

Your petitioner further states that the names of the owners of the lands affected by said proposed alteration of the said proposed routes A and B of the said New York, Lackawanna and Western Railway Company are Robert Troup Estate, G. R. Babcock Estate, Henry W. Box, William Savage, Robert Bayard Estate, James
 126 S. Wadsworth Estate, The Lake Shore and Michigan Southern Railway Company, The Union Iron Company of Buffalo, Charles Flynn, John Connors, James McBride, Thomas Sully, Jonathan Sidway, Katharine R. Bemis, Thomas Hennesy, Patrick Reagan, Roger Sweeney, Esther A. Glenney, Margaret Roach, Mary A. Langanhadir, Frank Lee, and The Estate of Mary Runsey and The City of Buffalo.

127 Annexed hereto, and accompanying this petition are a survey, map and profile of the said routes A and B as designated by the New York, Lackawanna and Western Railway Company and of the proposed alteration thereof.

Wherefore, your petitioner prays for the appointment of three disinterested persons, one of whom shall be a practical civil engineer, commissioners to examine the said route proposed by the said New York, Lackawanna and Western Railway Company and the said routes A and B, designated by that company, and the routes to

which it is proposed to alter the same; and, after hearing 128
the parties, to affirm or alter the same as may be con-
sistent with the just rights of all parties and the public,
and in accordance with the statute in such case made
and provided.

Dated, June 1, 1881.

THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,

By S. S. GUTHRIE,

Director. 129

SPRAGUE, MILBURN & SPRAGUE, Attorneys for the Peti-
tioner, Office address, 377 Main street, Buffalo, N. Y.

STATE OF NEW YORK, { ss.
ERIE COUNTY, }

Solomon S. Guthrie, being duly sworn, says that he is
a director and the general agent of the New York, Lake
Erie and Western Railroad Company, the petitioner
above named; that he has read the foregoing petition and 130
knows the contents thereof, and that the same is true to
his own knowledge except as to the matters therein stated
to be alleged on information and belief; and that as to
those matters he believes it to be true.

S. S. GUTHRIE.

Subscribed and sworn to before me, }
this first day of June, 1881. }

FRANK F. WILLIAMS,

Notary Public, Erie county, N. Y.

131

STATE OF NEW YORK, { ss.
COUNTY OF NEW YORK, }

Charles L. Atterbury, being duly sworn, says that he
resides in the city of New York, county and State of
New York, and is over the age of eighteen years; that
at No. 26 Exchange Place, in the city of New York,
in the county and State of New York, on the second
day of June, 1881, he served the annexed notice, petition,

132 map, surveys and profile on the New York, Lackawanna and Western Railway Company, described and named in said petition, by delivering a copy of said notice, petition, map, profile and surveys to Fred F. Chambers, the secretary of said company, personally, and leaving the same with him on the day and at the place aforesaid. Deponent further says that he knew the said Fred F. Chambers to be the secretary of the said New York, Lackawanna and Western Railway Company.

133

C. L. ATTERBURY.

Subscribed and sworn to before me, }
 this eighth day of June, 1881. }

CHARLES C. MARBLE (106),
 Notary Public, N. Y. city and county.

134 SURVEY OF THE PORTIONS OF THE ROUTES "A" AND "B,"
 DESIGNATED BY THE NEW YORK, LACKAWANNA AND
 WESTERN RAILWAY COMPANY, IN THE COUNTY OF ERIE,
 OF WHICH AN ALTERATION IS PROPOSED BY THE NEW
 YORK, LAKE ERIE AND WESTERN RAILROAD COM-
 PANY.

"Survey of the said portion of Line or Route A."

135 Beginning at a point in the city of Buffalo, in said county of Erie, on lands owned by the estate of Mary Rumsey, and in the center line of the route or line "A," of the New York, Lackawanna and Western Railway Company, as designated by that company on its map filed in the office of the clerk of the county of Erie, which point is numbered and designated on said map as station 161+82.6; running thence on a curve to the right with a radius of 3,581 feet, a distance of 497 9-10 feet; thence on a tangent south 51° 33' east 2,795 5-10 feet to a point in said center line numbered and designated on said map as station 194+76 in said line or route "A," the line above described being the center line of the portion of said line or route "A," designated by

the New York, Lackawanna and Western Railway 136
Company, in the county of Erie aforesaid, of which an
alteration is proposed by the New York, Lake Erie and
Western Railroad Company, the whole area of such por-
tion of said route being included between the lines run-
ning parallel with said center line and on each side
thereof, and $49\frac{1}{2}$ feet distant therefrom, and also the land
included within the lines shaded pink, on said map filed
by the New York, Lackawanna and Western Railway
Company, and lying between the stations referred to in 137
said description of said center line.

“Survey of said portion of Line or Route B.”

Beginning at station $180+62.3$ in the above described
center line ; running thence on a curve to the left with
a radius of 2,122 feet, a distance of 1,496 5-10 feet to a
point in said center line numbered and designated on
said map as station $218+33.3$ in said line or route
“B,” the line above described being the center line of 138
the portion of said line or route “B,” designated by the
New York, Lackawanna and Western Railway Com-
pany, in the county of Erie aforesaid, of which an alter-
ation is proposed by the New York, Lake Erie and
Western Railroad Company; the whole area of said
portion of line or route “B” being included between
two lines, one on each side of the center line last above
described, parallel thereto and distant $49\frac{1}{2}$ feet there-
from.

139

SURVEY OF THE ALTERATION OF THE ROUTES “A” AND
“B,” DESIGNATED BY THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COMPANY, IN THE COUNTY
OF ERIE, AS PROPOSED BY THE NEW YORK, LAKE
ERIE AND WESTERN RAILROAD COMPANY.

“Survey of proposed alteration of Route or Line A.”

Beginning at a point in the city of Buffalo, in said
county of Erie, on lands owned by the estate of Mary

140 Rumsey, and in the center line of said route or line
 "A" of the New York, Lackawanna and Western Rail-
 way Company, as designated by that company on its
 map, filed in the office of the clerk of the county of Erie,
 which point is numbered and designated on said map as
 station 161+82.6; running thence on a curve to the
 right with a radius of 2,707 5-10 feet, a distance of
 737 4-10 feet; thence on a tangent south $44^{\circ} 06'$ east,
 1,243 feet; thence on a curve to the left with a radius
 141 of 1,603 5-10 feet, a distance of 781 feet; thence on
 a curve to right with a radius of 1,603 5-10 feet, a
 distance of 578 6-10 feet, to a point in said center
 line of said route or line "A," designated by said
 New York, Lackawanna and Western Railway Com-
 pany, numbered and designated on its said map as
 station 194 + 76 in said route or line "A"; the line
 above described being the center line of the route to
 which it is proposed by the said New York, Lake
 142 Erie and Western Railroad Company to alter the said
 route designated by the said New York, Lackawanna and
 Western Railway Company, as route or line "A" on
 its said map; the whole area of the said route to which
 it is so proposed to alter the said route designated by
 said New York, Lackawanna and Western Railway Com-
 pany as route or line "A," being inclosed within two
 blue lines, one on each side of said center line above de-
 scribed and parallel thereto, and $49\frac{1}{2}$ feet distant there-
 143 from, excepting that portion crossing the rights of way
 of the railroad occupied by your petitioner, and the rail-
 road of the Lake Shore and Michigan Southern Railway
 Company, at which excepted points said blue lines are
 each distant 25 feet from said center line above de-
 scribed.

"Survey of proposed alteration of Route or Line B."

Beginning at station 183+94 in the above described center line, running thence on a curve to the left with a

radius of 814 4-10 feet, a distance of 594 feet; thence on 144
a tangent north $85^{\circ} 26\frac{1}{2}'$ east, 808 7-10 feet to a point in
said center line of said route or line "B," designated
by said New York, Lackawanna and Western Railway
Company, numbered and designated on its said map as
station 218+33.3 in said route or line "B"; the line
above described being the center line of the route to
which it is proposed by the said New York, Lake Erie
and Western Railroad Company to alter the said route 145
designated by the said New York, Lackawanna and
Western Railway Company as said route or line "B";
the whole area of the said route to which it is so pro-
posed to alter the route designated by said last men-
tioned company as said route or line "B," being in-
cluded between two lines, one on each side of the center
line last-above described, parallel thereto and distant $49\frac{1}{2}$
feet therefrom. 146

(Here follows the map annexed to the petition which
is the same map as Petitioners' Exhibit I, a copy of
which is herewith printed.)

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides
in the city of Buffalo, county of Erie, and State of New 147
York, and is over the age of nineteen years; that on the
3d day of June, 1881, at No. 21 Fitzgerald street, in the
city of Buffalo, in the county of Erie, and State of New
York, he delivered a copy of the annexed notice, peti-
tion, map, profile and surveys to Mrs. Charles Flynn per-
sonally, and left the same with her.

Deponent further says that he knew the person so
served to be the wife of Charles Flynn, one of the per-
sons mentioned and described in said petition as owners
of lands affected by the proposed change of the proposed
route of the New York, Lackawanna and Western Rail-

148 way Company, mentioned and described in said petition;
and that it was indorsed on the copy of said notice, petition, map, profile and surveys so delivered to and left with said Mrs. Charles Flynn, that the same were served in pursuance of an order of the Supreme Court of the State of York, made in the within entitled proceeding on the 3d day of June, 1881.

JAMES SUTTON.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

149 W. H. BRADISH,
Notary Public, Erie county, N. Y.

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

James Sutton, being duly sworn, says that he resides in the city of Buffalo, county of Erie, and State of New York, and is over the age of nineteen years; that on the 3d day of June, 1881, at No. 23 Fitzgerald street, in the city of Buffalo, in the county of Erie, and State of New York, he delivered a copy of the annexed notice, petition, map, profiles and surveys to Mrs. John Conners personally, and left the same with her.

Deponent further says that he knew the person so served to be the wife of John Conners, one of the persons mentioned and described in said petition as owners of lands affected by the proposed change of the proposed route of the New York, Lackawanna and Western Railway Company, mentioned and described in said petition; and that it was indorsed on the copy of said notice, petition, map, profiles and surveys so delivered to and left with said Mrs. John Conners, that the same were served in pursuance of an order of the Supreme Court of the State of New York, made in the within entitled proceeding on the 3d day of June, 1881.

JAMES SUTTON.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

W. H. BRADISH,
Notary Public, Erie county N. Y.

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

152

Frank F. Williams, being duly sworn, says that he resides in the city of Buffalo, county of Erie, and State of New York, and is over the age of twenty-one years; that on the 3d day of June, 1881, he deposited in the post-office at said city of Buffalo, five sets of copies of the notice, petition, map, profiles and surveys hereto annexed, each set properly folded and contained in a securely-closed wrapper, and respectively directed 153 to the several persons hereinafter named, at the places and addresses below stated, to wit:

To Louisa Troup, No. 218 Fifth avenue, city of New York, N. Y.

To Evelyn W. Wadsworth, guardian of Craig W. Wadsworth and James S. Wadsworth, Bath, Berkely Springs, Virginia.

To Egerton L. Winthrop, general guardian of Frederick B. Winthrop, Egerton L. Winthrop, Jr., and 154 Charlotte T. B. Winthrop, care Drexel, Hayes & Co., Paris, France.

To Sarah H. Babcock, Oakland, California.

To Charles Flynn, Chicago, State of Illinois.

Deponent further says that on each of said sets of copies of said notice, petition, map, profiles and surveys, so deposited in said post-office, he paid the postage chargeable thereon, respectively, in the United States; and that it was indorsed on each of said sets of papers that 155 the same were served in pursuance of an order of the Supreme Court of the State of New York, made in the within entitled proceeding on the 3d day of June, 1881.

FRANK F. WILLIAMS.

Subscribed and sworn to before me, }
this 13th day of June, 1881. }

W. H. BRADISH,

Notary Public, Erie county, N. Y.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

157

*To the New York, Lackawanna and Western Railway
Company, and each of the persons named in the peti-
tion as owners of lands affected by the alteration of
the route therein proposed, or the occupants of such
lands :*

You and each of you will take notice, that the peti-
tion of the New York, Lake Erie and Western Railroad
158 Company, verified on the 1st day of June, 1881, together
with the survey, map and profile accompanying the same,
with copies of which you are herewith served, will be
presented to the Hon. Albert Haight, one of the justices
of the Supreme Court of the State of New York, or such
other justice of such court as may then be present, at
the chambers of the justices of said Supreme Court, in
the City and County Hall, at the city of Buffalo, in the
county of Erie, State of New York, on Tuesday, the 5th
159 day of July, 1881, at ten o'clock in the forenoon of that
day, or as soon thereafter as counsel can be heard, and
that an application will then and there be made that
the prayer of said petition be granted.

Dated June 1, 1881.

Yours, &c.,

SPRAGUE, MILBURN & SPRAGUE,

Attorneys for Petitioner,

Office address, 377 Main street, Buffalo, N. Y.

(Here follows the petition of the New York, Lake Erie and Western Railroad Company, and the surveys already hereinbefore inserted, and the map which is the same map as Exhibit 1 printed herewith.)

SUPREME COURT.—At Chambers, Buffalo, N. Y.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

161

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, STATE
OF NEW YORK.

162

Upon reading and filing the petition of the petitioner herein, duly verified on the 1st day of June, 1881, together with the map, profiles and surveys thereto annexed, and the proofs of the due service of a copy of the said petition, map, profiles and surveys, with notice of this application, on all the owners or occupants of lands to be affected by the proposed alteration of the proposed route of the New York, Lackawanna and Western Railway Company set forth in said petition :

163

And after hearing Mr. Milburn, of counsel for the petitioner, The New York, Lake Erie and Western Railroad Company, in support of the motion for the appointment of commissioners herein, and Mr. Locke, of counsel for the respondent, The New York, Lackawanna and Western Railway Company, appearing in its behalf :

It is ordered that Wm. J. McAlpine, a practical civil engineer, Delavan F. Clark and Edward L. Stevenson,

swear that we will support the constitution of the United States and the constitution of the State of New York, and that we will faithfully discharge the duties of the office of such commissioners to the best of our ability.

WM. J. McALPINE,
E. L. STEVENSON,
DELAN F. CLARK,

Commissioners. 169

Sworn and subscribed before me, }
this 13th day of July, 1881. }

[L. S.] WM. JOHNSON,
Notary Public in and for Erie county, N. Y.

SUPREME COURT, ERIE COUNTY.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE, NEW YORK STATE,
AND THE ROUTE TO WHICH IT IS PRO-
POSED TO ALTER THE SAME.

170

171

We, the undersigned, commissioners appointed in this proceeding by the Honorable George Barker, one of the justices of the Supreme Court of the State of New York, by an order made by him at chambers, on the 7th day of July, 1881, do hereby certify and report.

That we have been attended by the counsel of the petitioner and the respondent, The New York, Lackawanna and Western Railway Company, respectively, and

172 have personally examined the route proposed by the
 New York, Lackawanna and Western Railway Company,
 in the city of Buffalo, county of Erie, and State of New
 York, and the route to which the petitioner has proposed
 to alter the same in this proceeding, and that we have
 heard the proofs and allegations of the respective
 parties, and the argument of their counsel; and after
 173 due deliberation we have determined to affirm and do
 hereby affirm the route originally designated by the
 New York, Lackawanna and Western Railway Company,
 in the county of Erie, in said State, as shown by the map,
 survey and profile accompanying the petition in this pro-
 ceeding.

174 Which approval and determination we hereby certify ;
 and we do hereby direct that our determination and cer-
 tificate, together with the petition in this proceeding, the
 map, survey and profile attached thereto, and the testi-
 mony taken before us herein, be filed in 'the office of the
 clerk of the county of Erie, in the State of New York.

Dated, Buffalo, August 4th, 1881.

175

DEHAVAN F. CLARK,

E. L. STEVENSON,

WM. J. McALPINE,

Commissioners.

SUPREME COURT, ERIE COUNTY.

176

IN THE MATTER OF THE APPLICATION
OF THE NEW YORK, LAKE ERIE
AND WESTERN RAILROAD COM-
PANY FOR THE APPOINTMENT OF COM-
MISSIONERS TO EXAMINE THE PROPOSED
ROUTE

OF

THE NEW YORK, LACKAWANNA
AND WESTERN RAILWAY COM-
PANY, IN THE COUNTY OF ERIE, NEW
YORK STATE, AND THE ROUTE TO WHICH
IT IS PROPOSED TO ALTER THE SAME.

177

MESSRS. SPRAGUE, MILBURN & SPRAGUE,
Attorneys for the Petitioner, The New York, Lake Erie
and Western Railroad Company.

MESSRS. BOWEN, ROGERS & LOCKE,
Attorneys for the Respondent, The Lackawanna Railway
Company.

178

The commissioners met in pursuance of the order of
the court, July 13th, at 10 o'clock A. M., and took the
oath required by the statute. The parties, together with
the commissioners, proceeded to view the premises in
question.

JAMES D. HAWKES, sworn on behalf of the petitioner,
and examined by Mr. McMillan, testified as follows:

179

Q. Mr. Hawkes, where do you reside?

A. Painesville, Ohio.

Q. You are one of the assistant engineers of the Lake
Shore and Michigan Southern Railway Company, are
you not?

A. Yes, sir.

Q. You have been employed in capacity of engineer
on that road for how long?

A. About twelve years.

180 Q. You formerly resided at Buffalo ?

A. Yes, sir.

Q. You are familiar with all of the Lake Shore tracks and crossings in this city, are you not ?

A. Yes, sir.

Q. The chief engineer of the company is whom ?

A. L. H. Clark.

Q. And he is confined to his house at the present time ?

181 A. I so understand ; he was when I left Cleveland.

Q. The Lake Shore line extends from where to where ?

A. From Buffalo to Chicago, and branches to Detroit, Jackson, Kalamazoo, Grand Rapids, Oil City, and other places.

Q. Are there any other places where there are branches ?

182 A. This is a map showing the Lake Shore road ; the blue line on this map shows the Lake Shore Railroad Company's tracks from Chicago to Buffalo, and the various branches in blue owned and operated by the Lake Shore road, and the connecting lines in red.

Q. This is a correct map showing their connections as they now exist ?

A. Yes, sir.

183 Mr. McMillan : I desire to offer this map in evidence, and have it marked " Petitioner's Exhibit No. 1." Map received in evidence and so marked.

Q. Have you examined the map of the proposed crossing by the Lackawanna Company of the Lake Shore tracks in the first and thirteenth wards ?

A. Yes, sir.

Q. And you are familiar with the proposed change of the route as proposed by the Lake Shore Railway Company and by the Erie Railway Company ?

A. Yes, sir.

Q. Will you look at that map and see if it is a cor- 184
rect representation of that portion of the route of the
Lackawanna Company, and also of the Lake Shore Com-
pany and the Erie Company?

A. Yes, sir; this correctly represents the situation.

Mr. McMillan: I offer in evidence this map, being the
one attached to the petition in this proceeding, which
has been identified and proved by Mr. Hawkes as a cor-
rect map of the location and crossing by the proposed
routes and changed routes, and ask to have it marked 185
“Petitioner’s Exhibit No. 2.” Map received in evidence
and so marked.

Q. I show you another map showing the point where
the proposed road crosses the tracks of the Erie Com-
pany, and also the tracks of the Lake Shore Company,
on a large scale. Have you examined this map, Mr.
Hawkes?

A. Yes sir.

Q. Is that a correct representation of the location, 186
and of such crossings?

A. It is.

Q. These dark lines represent the two tracks as they
are usually located, on each side of the center-line?

A. Yes, sir. I understood from their engineer they
were building a double-track road.

Q. The portions of the land colored yellow belong
to the Lake Shore and Michigan Southern Railway 187
Company?

A. Yes, sir.

Q. And that colored red belongs to the New York,
Lake Erie and Western Railway Company?

A. Yes, sir.

Mr. McMillan: I offer this map in evidence, and ask
to have it marked “Petitioner’s Exhibit No. 3.”

Map received in evidence and so marked.

188 Q. What is the condition of the street marked on this map "Sandusky street?"

A. It is not open, and there are no indications of a street on the ground; it is neither fenced, nor worked, nor traveled.

Q. It is substantially a common?

A. It is a pasture lot, used for pasturing cattle. That is, as far as this portion of it is concerned, east of the Lake Shore tracks.

189 Q. What do the blue lines represent?

A. The blue lines on this map represent the Lake Shore rails; the red lines the rails of the Erie track.

Q. What is the length of the main line of the Lake Shore and Michigan Southern Railway Company from Buffalo to Chicago?

A. Five hundred and forty miles.

Q. And about what is the length of the branches, the combined length?

190 A. About 460. It gives us about a thousand miles of road.

Q. Now, the Lake Shore road has railroad connections with the railroads centering at all of the cities along this line, has it not?

A. Yes, sir.

Q. On all of the railroads coming into Cleveland?

A. Yes, sir.

Q. Coming into Toledo?

191

A. Yes, sir.

Q. Coming into Detroit?

A. Yes, sir.

Q. Coming into Grand Rapids?

A. Yes, sir.

Q. And coming into Chicago?

A. Yes, sir. Dunkirk, Brocton, Erie, Girard, Ash-tabula, Paynesville, and so on,

Q. There are railroad connections at all of those 192 places you have named?

A. Yes, sir.

Q. And all of the through freight and passenger traffic that is carried over the Lake Shore Railway passes over the point indicated on this map where the Lackawanna proposes to cross?

A. Yes, sir.

Q. By Mr. Locke: All-through business passes over every point of the road, does it not? 193

A. No, sir. In several places we have two tracks, and part of the through business goes one way, and part the other.

Q. Mr. McMillan, resuming: But all of that business coming to the city of Buffalo would pass over the point indicated on this map where the Lackawanna Company proposed to cross, would it not?

A. Yes, sir.

Q. The Lake Shore Company has two main tracks 194 at this point, have they not?

Yes, sir.

Q. And those are the tracks upon which the through business, freight and passenger, is done?

A. Yes, sir.

Q. All freight and passenger traffic leaving Buffalo and going west on the Lake Shore road, passes over this point where they propose to cross?

A. Yes, sir, whether it is through business or local, 195 all business for the West passes over this point.

Q. The company has no other line except this one leading into or from the city of Buffalo, has it?

A. No, sir.

Q. Have you examined the various connections in detail down in this locality, as to the location of the frogs and switches and various connections?

A. Yes, sir.

196 Q. Just examine this map, Exhibit "No. 3," and see if that correctly represents it?

A. This map marked "No. 3" exhibits the switches, frogs and tracks as they are now on the ground, with one exception. There is one Erie track here that is now in process of construction, that is shown by red lines here. That is not quite finished. It is now being built, and will probably be finished within a day or two.

Q. When was the building of a double track there, 197 or what you call this southerly track, by the Erie Company determined upon?

A. Well, I couldn't say exactly, though my understanding was that it was determined on last fall.

Q. Is this building of a double track incident to the change of the gauge of the Erie Railway Company, to allow or the direct transfer of cars at that point between the two roads?

A. Well, I couldn't really give you a history of that.

198 Q. But you know that the matter was under consideration, and that that change was projected as early as last year?

A. Last fall is my understanding of the time they finally decided upon it.

Cross examination, by Mr. Locke:

Q. How far do your duties with the Lake Shore road affect that road; between what points?

199 A. Between Toledo and Buffalo and branches.

Q. Did you make these maps?

A. No, sir.

Q. Did you make any of them?

A. I made part of this map, "No. 1."

Q. What part of it?

A. The part from Buffalo to Erie.

Q. Who made the rest of it?

A. The rest of it was made in Cleveland, in the chief engineer's office.

Q. Is it a printed map?

A. Yes, sir; it is printed from a survey that I made from Buffalo to Erie.

Q. Do you know, personally, that the map is accurate?

A. Yes, sir.

Q. Have you been all over it?

A. I have been all over all the tracks shown here; yes, sir.

Q. And you know that it is accurate?

A. I have every reason to suppose it is.

Q. For the whole thousand miles?

A. I have every reason to suppose, from observation, that it is.

Q. You don't know personally, do you?

A. Well, not west of Toledo.

Q. Have you taken any measurements down here on map "No. 3"?

A. No, sir.

Q. This through business that you talk of, that passes over every point between Buffalo and Hamburg, does it not?

A. Yes, sir.

Q. Just as much as it does over this point?

A. No, sir; it passes several times over this point.

Q. I say, the through business passes over every point between here and Hamburg, of your road?

A. Yes, sir.

Q. Now, did you prepare map "No. 2"?

A. No, sir.

Q. Did you have anything to do with it?

A. No, sir.

Q. Are you prepared to explain it?

A. Yes, sir.

204 Q. Will you tell me, on the profile of the altered route, what will be the grade of the Lackawanna road above the Lake Shore Railroad?

A. Do you mean the elevation above the Lake Shore Railroad?

Q. What will be the elevation of the Lackawanna Railroad above the Lake Shore Railroad on the altered line?

A. Taking it from the map, it will be twenty-five 205 feet and four-tenths above the tie.

Q. Now, is that to the iron of the Lackawanna road, or to the sub-grade of the Lackawanna road?

A. Well, it is enough to go to the iron of the Lackawanna road.

Q. How does that profile show it?

A. It does not appear here as to whether it is to the iron or to the top of the tie. It is the top of the tie of Lake Shore road to some point on the Lackawanna 206 road. It is not specified, but there is sufficient room to go from the top of the tie to the top of the iron of the Lackawanna road.

Q. For how long distance does that map change the elevation of the Lackawanna route?

A. Eight thousand nine hundred and fifty-four feet.

Q. Is that on one route, or more than one?

A. That is on the line marked "A."

207 Q. How far does it change it on the line "B"?

A. Four thousand five hundred and forty feet, taking the figures on this map. It is 4,542 feet on section "B."

Q. Now, how much do the two together make?"

A. Thirteen thousand four hundred and ninety-six feet.

Q. Have you been over all the land marked and designated on map 2?

A. Do you mean the Lackawanna route?

Q. Yes, so far as it is marked on map 2.

A. Well, no, not entirely: I did not go on the land 208 south of the Buffalo Creek.

Q. You have been from Buffalo Creek how far west?

A. From Buffalo Creek to the Lake Shore road, and west of there.

Q. How far west have you been?

A. Well, as far west as Fitzgerald street, where we commanded a view of the commons to Hamburg street.

Q. Look at your profile and see if you cannot tell how far that elevation is from your railroad to a definite 209 point on the Lackawanna road. Does it not say "sub-grade"?

A. I don't see any "sub" here. I see the grade several times, but the word "sub" is not used. There is no "sub" on the map at all.

Q. Does it not say "sub-grade" right over the Buffalo Creek?

A. No, it don't on this map. It don't say "sub" over the Buffalo Creek here that I can see. 210

Q. Will you give us the elevation of the altered line at Hamburg street, above the street grade?

A. At a point marked "Hamburg St." it is about twenty-one and one-half feet.

Q. Now, go on to Alabama street?

A. Alabama street does not show on the profile, but we can put it on very nearly. About seventeen feet is the elevation of the Lackawanna road at that point. 211

Q. Now, go to Louisiana street?

A. It strikes grade at Louisiana street; it strikes there the grade of the Lackawanna road.

Q. See if that is so?

A. Why, it is drawn so.

Q. Well, see if it is so?

A. There is Louisiana street on that line, and on this line, and the two things are synonymous terms so far as this map is concerned.

212 Q. Don't that profile at Louisiana street show the necessity of an excavation some three or four feet?

A. I don't recognize the fact that this map shows anything at Louisiana street at all on any profile. There is Louisiana street, and this map shows at station No. 150, and it is not quite to Louisiana street; at station No. 150 it apparently strikes the grade of the Lackawanna Company. The profile of line "A," as shown here, shows merely to 150, and Louisiana street is still beyond.

213 Q. Does station 150 bring you down to the grade of the Lackawanna road on its located route—its proposed route?

A. That would be my understanding of the intention of the map; 150, I should take it, was the intended point of meeting their grade.

Q. Do you know whether any actual elevations have been taken with regard to the grades of those streets?

A. I don't know, sir.

214 Q. Does map No. 3 show the Lake Shore switches and frogs as they are now, or as they have been in some past time?

A. Well, I should say that it showed them as they are now, it shows the situation just as it is now on the ground.

Q. Have you any map showing their situation on the nineteenth day of May?

215 A. Well, no, not that I know of; I presume we have such a map in Cleveland.

Q. Did you have anything to do with preparing this petition?

A. No, sir.

Q. Have you ever had any experience on any other roads except the Lake Shore road?

A. No, sir.

Q. How wide should the base of an embankment be

that carries tracks—thirty-five feet high with double tracks? 216

A. Any specified distance apart.

Q. As they are usually built?

A. There is not any usual custom.

Q. Say thirteen feet apart from center to center; an earth embankment?

A. And what is the width of your embankment on top?

Q. Wide enough for two tracks? 217

A. That won't do.

Q. It will do; can you answer the question? If not, say you cannot.

A. There is no usual custom of making an embankment at any distance on top; if you mean as we build it on the Lake Shore line, I will tell you.

Q. I mean how large would be the base of an embankment thirty-five high, sufficiently wide at the top to allow two railroad tracks to be constructed and operated properly and conveniently? 218

A. Well, now the embankment at the top has got to be of a certain width; of course you know what width you mean, because you mean an embankment these folks would build.

Q. I mean, take any first-class railroad?

A. Take the Lake Shore road, our embankment, with our tracks seven feet apart, and five feet for each track, and six feet for the rail outside to the top of the slope, would be twenty-nine feet; that is wider on top than these gentlemen probably build an embankment; however, we will take twenty-nine feet at the top, and thirty-five feet high. 219

Q. Take twenty-nine feet on top, and thirty-five feet high, how wide would it be at the base?

A. It is one hundred and thirty-four, as we build it

220 on the Lake Shore, with a slope of one and one-half to one.

Q. Then it would be impossible for the Lackawanna road to build an earthen embankment on the line as they have located, with the right of way that you have given them, wouldn't it?

A. No, sir, they wouldn't have to build it thirty-five feet high.

Q. Are not parts of it thirty-five feet high?

221 A. I think not.

Q. How high is it?

A. You wouldn't very likely build an embankment the highest point on the Lake Shore road right of way.

Q. Take the highest point off from the Lake Shore road?

A. Well, that would show here in the neighborhood of thirty-one feet.

222 Q. Now, take that, how much right of way would be required? I mean to build a first-class railroad. I want to know how wide the embankment would be at the base in order to build, in a first-class manner, two tracks on an embankment thirty-one feet high?

A. One hundred and twenty feet, taking twenty-seven feet wide on top, and thirty-one feet embankment, slope of one and one-half to one.

223 Q. Your map shows a right of way of only how much?

A. Well, it shows one hundred feet right of way, as I understand it.

Q. Ninety-nine feet, is it not?

A. Well, possibly it is ninety-nine feet.

Q. And part of it was how much; part of it was less?

A. Over the Lake Shore and Erie tracks it is fifty feet, and the balance of the way ninety-nine.

Q. Now, how far does that fifty feet extend? 224

A. It extends over the Lake Shore tracks and the Erie tracks and the connections between.

Q. For what distance?

A. Measured on the center line it would be about seven hundred and fifty feet distance.

Q. And on that seven hundred and fifty feet you only give us fifty feet of land?

A. Yes, fifty feet.

Q. Is that enough to build two tracks upon? 225

A. Oh, yes.

Q. At that elevation?

A. Yes, sir.

Q. How would you have to build it?

A. Trestle or bridges.

Q. You cannot make an earthen embankment?

A. Oh, no, you cannot, anyway, without covering up the Lake Shore tracks.

Q. How wide are your Lake Shore tracks there, 226 proper?

A. They are some seventeen or eighteen feet, I believe, on that line, and with the slope of ninety-three feet, as you have been figuring on, it would make the space to be allowed for the Lake Shore road of some one hundred and ten feet.

Q. Now, you have been making some changes down there quite recently, have you not, in tracks? 227

A. Yes, sir.

Q. Did you commence within ten days to do it?

A. No, I think not.

Q. You have commenced since the first of July?

A. No, I think not.

Q. When did you commence?

A. I think probably in June, we commenced before the Erie folks did, in order to let them put their crossing in, we had to move some switches.

228 Q. How long had your road been operated as it was on the nineteenth day of May, at that point?

A. About two years.

Q. What was the distance between the switch rails as they stood on the nineteenth of May?

A. I couldn't tell you exactly.

Q. Those have been changed, have they not, since the 19th of May?

A. Yes, sir. I have explained once that we were
229 making some changes there to carry out an arrangement with the Erie road, and it was necessary to change certain switches there, and we did it.

Q. You say you have been connected with the road twelve years?

A. Yes, sir.

Q. Can you tell when the Lake Shore road acquired the lot to the east of its track there?

A. Not exactly. It was previous to my connection
230 with the road.

Q. Then the Lake Shore has owned lot 185 for more than twelve years?

A. Yes, sir.

Q. By Com. Clark: Which lot is that?

A. That is the lot marked blue on "Exhibit No. 2."

Q. By Mr. Lock, resuming: It owns a large amount of land as marked in yellow on Exhibit No. 3 here on the north side of the transfer house, does it not?
231

A. It owns all the land marked in yellow there, besides a large amount not marked yellow.

Q. Now, would there be any practical difficulty in making transfer tracks, putting transfer tracks on the north side of the freight house—of the transfer house?

A. No, sir. That is what this land was bought for, was for tracks, to give us facilities for transferring on the north side and south side.

Q. When was that bought?

A. Well, I don't know when that was; previous to 232 twelve years ago.

Q. There is room for an abundance of tracks, is there not?

A. Well, there is room for some tracks there.

Q. How many, twenty?

A. You can't use twenty tracks.

Q. Five?

A. There is room for five tracks there.

Q. Room for all you want? 233

A. All we want at that point, yes, sir; but in order to make transfer tracks of them they would have to connect with the Erie road down here (witness indicates), which is not practicable without their buying right of way.

Re-direct examination, by Mr. Greene:

Q. Referring to the first map, you say, in answer to the counsel, you know nothing about its correctness west 234 of Toledo?

A. Yes, sir.

Q. You mean by that from personal measurement?

A. I mean by that from personal measurement?

Q. You have a general knowledge; have been frequently over the road, have you not, in that locality?

A. Oh, yes; I have been over the road west of Toledo. 235

Q. And while you cannot say as to its strict accuracy, it does truthfully represent generally the situation of the lands west of Toledo?

A. Yes, sir, so far as I know.

Q. The lines do run to all the points as indicated there, and substantially as indicated?

A. Yes, sir.

Q. I believe you said before that it connected with all the other railroads which are there marked in red?

236 A. Yes, sir.

Q. At the various points?

A. Yes, sir, and some others which are not marked here, because this map was made in 1875. Since that time we have many new connections.

Q. In speaking of the embankment, you gave a slope of one and one-half to one. The requisite slope is determined to some extent by the material with which the embankment is made, is it not?

237 A. Yes, sir; somewhat.

Q. And the embankments that you have spoken of are such as are used upon the Lake Shore?

A. Yes, sir.

Q. But not universally used?

A. No. There are modifications made to suit the special material.

238 Q. What would you say as to the practicability of constructing the embankment at the points to which the question referred, with a base of one hundred feet; ninety-nine feet, with proper material, making a sufficient embankment to accommodate two tracks; along this line, taking the profile as it is?

A. Well, there would be no difficulty in making an embankment on the right of way as shown there, except close to the Lake Shore road, probably for a few hundred feet close to the Lake Shore road.

239 Q. Wouldn't it be practicable there to trestle?

A. Yes, sir.

Q. And better than an embankment, even if you had a sufficient right of way?

A. It would be practicable to trestle, or practicable to protect the base with masonry. A retaining wall, a vertical retaining wall, to protect the bottom of the embankment, would admit of an embankment being constructed at that point.

Q. I believe you said the right of way over the track, 240
as proposed by the petitioners, is fifty feet in width?

A. Yes, sir.

Q. Is that ample for all purposes necessary to construct a proper trestle?

A. A great plenty.

Q. You were asked in reference to some recent alterations. When were those changes, about when were they determined upon?

A. Well, I understand the changes at that point in 241
our tracks were made necessary by an arrangement with the Erie folks last fall, by which they put in a second track across our track at that point, which made it necessary for us to move a switch.

Q. Do you mean an extra track westerly of the then existing track? -

A. To the south of the then existing tract. In moving that switch to give them room, we substituted for the old switch our standard steel switch. That is put 242
in as all our switches are on the road, and it joins their crossing frogs, and we moved it just as little as possible in order to give them room for their crossing frogs; and we joined their crossing frog. From the standard it runs to the frog, and from the frog in the track to the next switch. That is our standard manner of putting in the switches. Then we start out from the second switch after we leave the cross-over, with just as little room as is necessary to put in the switch rails and put in another switch. The 243
standard has recently been adopted, on the Lake Shore road, of steel switches and steel frogs of a certain distance between switches and frogs.

Q. And when was this arrangement made in reference to their putting in the additional crossing?

A. Last fall, as I have already stated.

Q. And in carrying out that work as then contemplated all the changes that have recently been made to which were rendered necessary?

244 A. They were rendered necessary and were made by our road-master without any instructions from anybody else.

Q. Without reference or regard to the proposed location of the Delaware and Lackawanna?

A. No, sir; not supposing they would go within a mile of where the proposed road would.

Q. That was done just as it would be if this Delaware and Lackawanna crossing had never been contemplated?
245

A. Just exactly; I do not suppose a man there knew where that road was; I didn't until this week, and the section foreman who did the work had no interest in it.

Q. The high embankment suggested by counsel, might well be avoided and trestle-work used in its stead in carrying this track up as proposed?

A. Yes, sir.

Q. Is there a similar trestle where the Erie crosses
246 the Central?

A. There is a trestle where the Erie crosses the Central; in fact I never knew a track to cross another in a city with an embankment as high as this would be; a trestle would be the ordinary manner.

Re-cross examination :

Q. How much trestle-work have you on the Lake
247 Shore road between here and Cleveland?

A. We have very little trestle-work.

Q. Have you any?

A. Yes, sir.

Q. How long at any one place?

A. We have got two trestles on different points out about a mile beyond where we are.

Q. How long are they?

A. One is in the neighborhood of a hundred and the other in the neighborhood of two hundred feet.

Q. How high are they ?

248

A. Some eight or ten feet.

Q. Have you any trestles there thirty feet high on the Lake Shore road between here and Cleveland ?

A. No, sir.

Q. Do you think such things are desirable in the construction of a railroad, high trestles thirty feet high ?

A. No, not as desirable as constructing a road on level ground.

Q. They are not desirable in the eyes of an engineer? 249

A. No, sir; a bridge is not desirable, nor a culvert, nothing desirable but level ground.

Q. You think a trestle is as desirable as a bridge or culvert ?

A. Do you mean on this proposed line ?

Q. I mean on a railroad generally, without regard to this proposed line ; you favor trestles, do you ?

A. Well, it is a good deal the fashion now to build trestles instead of bridges. 250

Q. You favor them, do you, as an engineer ?

A. Not over embankments.

Q. You think embankments are quite as good as trestles ?

A. Yes, sir ; where the question of cost has to be considered.

Q. You say you don't know any place where an embankment has been built with a view of getting an over-head crossing thirty-five feet high ? 251

A. I said in a city.

Q. Do you know of any over-head crossing thirty-five feet high in a city ?

A. I don't know how high the Erie crossing is ; I should think that was nearly that.

Q. Would that be your best judgment ?

A. Yes, sir ; I should think it would be thirty to thirty-five feet.

252 Q. Do you know whether they are proposing to fill up that trestle or not?

A. I don't know.

Q. From whom did you hear of the proposition on the part of the Erie to put in that new south track; where did you get your information about that last fall?

A. I didn't say I got any information about it last fall.

Q. Had you heard of it last fall?

253 A. No, sir.

Q. When did you first hear that they proposed to put in a new south track there?

A. Well, I presume three or four weeks ago was the first information I had of it.

Q. Since the nineteenth of May?

A. I should presume so.

Q. Would you, as an engineer, be perfectly content with ninety-nine feet of land to build an embankment
254 thirty-one feet high upon?

A. For a double track road?

Q. Yes?

A. No; I should want a little more land than that.

Q. You would want 120 feet at least?

A. Yes, sir.

Q. You would probably want 150 feet would you not for ditches, and everything of that sort?

255 A. Well, I could get along with 120.

Q. You know the provision of the railroad law requires railroad companies to build ditches on the side of the track?

A. I am not aware of it.

Q. You did not know that the law required railroad companies to do that?

A. No, sir.

Q. By Commissioner McAlpine: When you speak of trestle-work do you allude to wood or iron?

A. Well, the counsel did not make any distinction 256
between wood and iron; I don't know as he is aware
that we build trestle-work of iron, but it is customary
now a days to build important trestle-works of iron; the
New York, Chicago and St. Louis road are putting in
some important trestles one hundred to two hundred and
fifteen feet in height.

Q. In expressing your opinion of the propriety of
using trestle did you have reference to wood or iron
trestle? 257

A. Wooden trestle-work; there was nothing brought
up about iron at all; in fact iron trestle at this point
would have some advantages over an embankment.

Q. How long would a wooden trestle, such as you
contemplate, last?

A. It would last eight or ten years with some re-
pairs.

Q. What would you say as to the practicability of 258
constructing here an iron trestle?

A. It is perfectly feasible.

Q. And as to its durability?

A. I couldn't state, because I am not old enough to
know how long iron trestles will last?

Q. There has no one lived long enough to demon-
strate that?

A. I would like to hear from some older engineer on
that point. 259

Q. Would you, as an engineer, say that it would be
much more durable than wood?

A. Oh, yes.

Q. Practically permanent?

A. We call an iron structure a permanent structure.

Q. By Mr. Locke: It is part of the general policy
of every railroad to have an earth embankment where it
can, is it not?

260 A. I don't know of any place where they cannot have an earth embankment.

Q. They are considered far superior to any kind of trestle, are they not, if they can be constructed where water won't wash them out, and all that sort of thing?

A. That is perhaps too general a question.

Q. Isn't an earth embankment better than any iron trestle, provided you can retain it in its place?

A. I should prefer it, yes sir. If there was no question of cost to enter into the matter at all, I should prefer an earth embankment.

Q. It makes a better railroad, a safer railroad?

A. Yes, sir.

Q. You have to watch your iron trestles and your wooden trestles?

A. No more than we do on all our large earthen embankments.

Q. You have men appointed to inspect the bridges, 262 who are charged with the duty?

A. Yes, sir, and to inspect the earth embankments.

Q. You have skilled men to inspect your bridges?

A. Yes, sir, and also to inspect the earth embankments.

Q. Who are the skilled men to inspect the earth embankment at Angola?

A. I am one of them.

Q. How often do you inspect that? 263

A. I give it a thorough inspection twice a year, and a casual inspection once or twice a month, perhaps.

Q. And you go there for the express purpose of inspecting that embankment?

A. Twice a year.

Q. How often are the iron bridges inspected?

A. Twice a year by experts. I don't have anything to do with that.

Q. It is somebody that ranks you that inspects that?

A. No, sir.

264

Q. Somebody beneath you?

A. No, sir, a different department.

Q. An inspector of bridges?

A. Yes, sir.

Q. And you are willing to swear an earthen embankment requires quite as much care as iron trestle?

A. You used the word "inspection" before.

Q. Quite as much watching?

A. Yes, sir.

265

Q. As an iron bridge?

A. Yes, sir.

Q. Requires quite as much watching and care as an iron bridge?

A. Yes, sir.

Re-direct, by Mr. Greene: In a location like this, in a city, would you not regard an iron trestle as preferable to an embankment in this locality?

266

A. Yes, sir; in this locality I think an iron trestle would be preferable to an embankment.

Q. You say a trestle is not desirable. Nothing desirable but a plain, level base for your road. How as to the comparative desirability or undesirability of crossing on a trestle, or crossing at grade, a road that is doing a large amount of business over its tracks?

A. There is hardly a comparison between the desirability of crossing at grade and overhead. The overhead crossing interferes not at all with the traffic of the road.

Q. Were you speaking of the undesirability of a trestle or a grade crossing; you say a trestle is not desirable ordinarily; what would you say as to grade crossings?

A. Well, I say they are not desirable.

Q. Relatively considered, or comparatively?

A. Anyways considered.

268 OCTAVE CHANUTE, sworn on behalf of the petitioner, and examined by Milburn, testified as follows:

Q. You are the engineer of the Erie Railway Company?

A. I am, sir.

Q. In charge of the engineering department of that road?

A. Yes, sir.

Q. You have been an engineer how many years?

269 A. About thirty-two years.

Q. And of that time, how many years have your engineering duties been connected with railroads?

A. The whole of the time sir, practically.

Q. That is, you have had charge of all the engineering works and matters connected with the building and operation of railroads?

A. With the construction, and to a certain extent, the operation of railroads.

270 Q. And all matters connected with railroads?

A. Yes, sir,

Q. You have also had quite a large experience in the matter of bridges, have you not?

A. I have had some experience in that way, sir.

Q. You built the Chicago, Burlington and Quincy bridge?

A. I built the bridge across the Missouri river at Kansas City.

271 Q. For how many years have you had charge of the engineering department of the Erie Railway?

A. A little over eight years.

Q. You are, are you not, well acquainted with all the railroad system connected with the city of Buffalo?

A. In a general way I am, yes, sir.

Q. Both from observation, and the study of maps and plans?

A. And from that experience which eight years connection with the Erie has given me. 272

Q. You know the locality where the crossing in question which we are now examining is?

A. I do.

Q. That is this locality set forth in these various maps in evidence here?

A. Yes, sir.

Q. I will ask you if you are not particularly well acquainted with both the railroad system at that point, 273 and the manner in which the business is conducted at that point?

A. I am in a general way.

Q. What is the particular relation between the Lake Shore and Erie Railways at this point; I mean now as to the transfer of their business?

A. The two railways cross each other at that point, and in connection with that crossing they have their transfer house for the interchange of freight business 274 between the two roads.

Q. At the point of the crossing?

A. I mean by that a radius of a few hundred feet.

Q. The main line of the Erie Railway?

A. Its main line may be said to extend from Jersey City to Buffalo; it has other lines, but that is the principal one upon which the most traffic is done.

Q. And that traffic is east and west-bound freight to or through Buffalo? 275

A. It is.

Q. The length of the Erie Railway, that line is about what?

A. The length from Jersey City to Buffalo is four hundred and twenty-two miles. The Erie system consists of some nine hundred and seventy-two miles.

Q. And the great part of that system drains, in a tariff way, into and through Buffalo?

276 A. It does. The largest portion of business which the Erie Railway does is from and to the city of Buffalo.

Q. At Buffalo the Erie Railway connects—one of the roads with which it interchanges freight is the Lake Shore; through freight?

A. It is.

Q. And does it not also bring a large amount of business which is distant to Buffalo, and take from Buffalo a large amount of business?

277 A. It does.

Q. The Erie is what you might designate an eastern trunk line, and the Lake Shore a western trunk line?

A. Yes, sir.

Q. So that the two make a freight line from New York to Chicago, and all intermediate points?

A. They do.

Q. These tracks which are represented on Exhibit 3, are what particular tracks of the Erie Railway?

278 A. Those tracks which are here designated in red ink are the tracks of the Erie Railway.

Q. And which of its tracks; passenger or freight?

A. Freight, exclusively.

Q. Are they its main freight tracks?

A. They are its main freight tracks, for its exchange business with the Lake Shore road, for its lake business, for its grain business, and for a part of its coal track, this being only one of the lines which the Erie has in the city of Buffalo.

279 Q. This line breaks away from the main line, entering the city at what point?

A. It forks from the passenger line at the crossing of Exchange street, one leg runs down to the lake, passing this point and crossing the Lake Shore road here; the other runs down parallel with Exchange street to its discharge depot.

Mr. Milburn: I have here a map of Buffalo, which 280
I offer in evidence, received, and marked "Exhibit
No. 4."

Q. Starting at Exchange street, at the fork, where
does this freight line of the Erie go to?

A. It goes down in a southwesterly direction to the
freight-house and elevator of the Erie Railway, on Buf-
falo Creek.

Q. Starting from Exchange street?

A. Starting from Exchange street, it goes in a south- 281
westerly direction to the freight-house and elevator of
the Erie Railway on Buffalo Harbor. This proposed
crossing with the Lake Shore road is about midway be-
tween the points where the two branches of the Erie
fork at Exchange street and its terminal freight depot
upon Buffalo Harbor, and its elevator.

Q. You say it is over that line that all the lake busi-
ness of the Erie Railway passes?

A. It is.

282

Q. And I will ask you if the Erie Railway at Buffalo
runs in connection with lines of propellers as also a
freight line to the west?

A. It controls a line of propellers on the lakes with
which it exchanges business at its freight-house on the
harbor, at the termination of this freight line which I
have previously described.

Q. Then the entire business which the Erie Railway 283
gets at its lake terminus, or carries to it there, its entire
freight business, as well as the entire business east and
west, which it exchanges with the Lake Shore, passes
over this crossing in question?

A. It does.

Q. Can you give us an estimate of the number of
cars that pass the point of the proposed crossing of the
Lackawanna and the Erie tracks?

Q. Will you state, if you please, to the commission-

284 ers, the objections that occur to your mind to a grade crossing of one railroad by another, first without any specific reference to this point?

A. The chief objection is the danger of collision between trains.

Q. Now, that is one objection, and in your own way, without my following you, will you just make as complete a statement on that subject as you care to make?

A. As to that, I can only say that at an early day, 285 when traffic was small, a number of grade crossings were introduced in the various railways of the country. That experience in the operation of railroads, however, has taught us their exceeding great danger, and that so large a proportion of the accidents which occur upon railroads occur at grade crossings; that all the important lines of the country now are prepared to go to very considerable expense in order to avoid them altogether; that we have not, for a number of years past, consented 286 to any grade crossings whatever; that when they have been sought for we have refused to become parties to arrangements which we considered so very dangerous and destructive to life and property; that we have preferred, in all cases, if they were to be put upon our railroads, that they should be forced upon us by a commission, rather than take the responsibility of incurring so great a danger in the operation of our roads. I believe that is the general sentiment of all the railway men in 287 the country. I think that in some countries, in England, for instance, they are absolutely prohibited by law; that in some of the States they are only consented to under the most strenuous restrictions, and that the chief objection to this proposed crossing is the fact that it is to be a grade.

Q. Now, continuing on the same line, Mr. Chanute, I will ask you if, besides the question of danger, there is not also a serious question of delay in all trains?

A. There would doubtless be great delay, great inconvenience from an additional grade crossing at that point; but the chief objection, as I have stated before, is the great danger that it would involve.

Q. Now, taking up this particular crossing, and taking as an assumption in the case to be verified subsequently, that there pass there at that point over a million cars in the course of the year, and what then would you say as to this question of delay, also this question of danger; would not that be a condition of things making the danger more acute with that volume of traffic?

A. It would increase, undoubtedly, the operating expense of all the roads participating in that crossing, and it would delay the engines, the trains, the cars, and it would probably cost twice the number of switching engines to be required, because of the delays that would occur in their waiting for one another to proceed across this point; but the chief objection, as I stated before, is *that of the danger of collision*.

Q. Now, to have crossings of one railroad by another, it is necessary to have a particular kind of rail?

A. No, sir; no particular kind of rail; it is necessary to have a crossing, a crossing plate, a crossing frog, if you please.

Q. Is there an element in here of wear and tear on rolling stock?

A. Yes, sir; these crossing plates wear out generally in about one-fifth the time that the solid rails at other parts of the road do; and for every blow that they receive they strike one to the rolling stock, so that they undoubtedly wear out rolling stock much faster than the ordinary rail on the main tracks of the road.

Q. There is a corresponding increase of the wear of the rolling stock just as there is an increase of the crossings, as compared with the straight track?

A. Yes, sir.

292 Q. Does it require also an increase of service, in the way of protecting and guarding the crossing?

A. Yes, sir, in order to work a crossing at all, it is necessary that there should be watchmen night and day, who should give the signals to prevent collision between the trains.

Q. Now, taking this volume of business that I have mentioned to you, at this crossing, and the fact that here the Erie crosses the Lake Shore; that another
293 trunk line proposes to cross all the tracks at grade, some ten tracks, what would you say as to the delays in trains at that point while one of the roads has command of the crossing, and especially with reference to its bearing on trains, say on the same division of that railroad; of the railroads which are waiting?

A. I should say that it would largely increase the annual cost of operating.

Q. What are your general views on the merits of
294 this crossing at grade by the Lackawanna, at a point where a great deal of switching is done, for the purpose of making up and distributing trains between the Erie and the Lake Shore?

A. I think it ought not to be permitted at all.

Q. What are the merits, the desirability, propriety
of a grade crossing at this point, where all the trains between the Lake Shore and the Erie Railways are made up and distributed?
295

A. As to what the result would be, I would say that it would largely increase the operating expense of all the roads, and very largely increase the danger of accident and the hazard of collision.

Q. In what way would it increase the cost?

A. It would first by compelling the stoppage of trains add very considerably to the cost of operating the roads.

Q. Keeping service idle?

A. Not only in keeping service idle, but in wasting 296 the fuel, and in causing a certain amount of wear and tear to the rails, to the crossings, and to the rolling stock upon the application of the brake in order to bring them to a stop; so that there would be a waste of time and waste of substance, both, then with respect to the danger of collision; with the utmost care, with the best appliances, and the best men, we find that it is impracticable—impossible, to prevent collisions at crossings. Not a year passes that we do not have some 297 bitter experience in that respect, and even though we surround this with every safeguard that ingenuity can take and devise, it is quite certain that at some time an incident of carelessness, a misunderstanding of direction, or an overlooking of an approaching train, will bring about a collision which may result in loss of life and of property.

Q. By Commissioner McAlpine: Does the necessary backing of trains at such places add anything to 298 the difficulty or danger, or cost?

A. It does, at this point the drilling of trains is carried on for the purpose of switching out cars and delivering them to the other road. It frequently occurs that those cars are back of the engine, and that the engineer hasn't a clear sight past his train in shunting and running the cars.

Q. By counsel resuming: Now, just at this point, 299 where the proposed Lackawanna crossing is, there is a great deal, a very large amount, is there not, Mr. Chanute, of this switching going on, to make up and distribute trains?

A. There is.

Q. Take any day when that business is going on, and the target is set to allow Lackawanna train or trains to pass, that is, to give it command of the crossing, what

300 is the effect upon that of all the switching business over that point?

A. It must all stop up until the crossing is again clear.

Q. In the meantime the train hands are necessarily idle, are they not, and the fuel with which the train is run is being consumed to no purpose?

A. It is.

301 Q. And also is it not a matter of engineering experience that it is an expensive matter, this continual quitting in such a business, and stopping your trains backwards and forwards in their business?

A. Yes, sir; that all costs us money.

Q. Is not the economical way to have the business proceed with as few interruptions as possible?

A. Undoubtedly.

302 Q. If, with a grade crossing there, in busy times, the transfer business of the Erie and Lake Shore has to stop, does not that tend to create a block in the business of the two roads?

A. At that point, yes; not necessarily at other points.

Q. By a commissioner: You mean the Erie and the Lake Shore?

A. Yes, sir.

303 By counsel, resuming: Now, is it not a fact that the entire railway system, we will say, both of the Lake Shore and the Erie, in the city of Buffalo, is dependent in its general carrying on in all parts of the system, working without any serious blocks or stops?

A. To a certain extent only. A block at this point need not necessarily interfere with traffic at other points,

Q. It need not necessarily; but take it in busy times, as these roads have it here when the western grain is going forward, and I will ask you then if it is not a most

vital question to keep every part of this system here free 304
and clear, and in good working order?

A. Oh, of course.

Q. And if at that time the continual stoppages imposed by a new trunk line with a large business, coming over that point at grade would not introduce an element into that business that has never been yet experienced by the two roads, an element of delay, and the element of difficulty?

A. I don't think we could quite say that. It would 305
intensify the delays and annoyances that already occur by reason of the existing grade crossings, I do not believe we could say it would introduce a new element, however, because that already exists.

Q. That grade crossing does not facilitate the transfer between the two roads?

A. But it is an incident of the fact that the tracks are at the same level. If it were possible to do away 306
with this grade crossing, and yet maintain our exchange with the Lake Shore road, we would jump at it in a moment.

Q. Then to get the idea that I am driving at, take it at times of the year that I know exist in the city of Buffalo, when the Lake Shore, when the Erie, with the greatest difficulty keep their yards clear and keep their freight moving. If the existence at this point of another 307
grade crossing by a trunk line would not quite largely increase the present difficulties?

A. It certainly would largely increase the present delays and expense.

Q. And it is to get at that, that the delay is not only a local matter in the particular freight business that is carried on here. But that it effects in busy seasons, that it effects the movement of grain, the movement of freight east and west?

A. It does. I can best perhaps answer that by say-

ing that some years ago I made an estimate of the possible saving in one direction of our operating line, of the doing away with the complicated system of tracks which had grown up about the city of Buffalo. We are working our traffic with the aid now of some fourteen switch engines, which cost us on an average about ten thousand dollars a year each, and earn no revenue whatever. If we could disentangle our tracks from the various crossings and complications that they have got into, I estimated that we could do our entire business more comfortably with six switch engines, thus saving about eighty thousand dollars a year in that one item alone, which is the direct consequence of the complications of our relations here.

Q. And crossings?

A. And crossings.

Q. Graded crossings? This graded crossing here, as you say, to both the Lake Shore and the Erie will involve more switch engines than ever?

A. It will involve delay to the same engines that we have and additional engines.

Q. Additional engines to do the same amount of work?

A. Yes, sir.

Q. Now will you describe to us the objections to a grade crossing there as they appear from the facts about the tracks themselves as shown on this map?

A. It will be seen by inspection of this exhibit number three, that the crossings are here laid across ten tracks.

By a commissioner: The original line?

A. The original line proposed by the New York, Lackawanna and Western road, across ten tracks, and some of those crossings are not feasible or practicable. The first track which is across here coming from the east, the first Lake Shore track across coming from the

east is crossed right over the switch, and one of the 312 crossing-plates is going to cut off the corner of one of the frogs, which is not a practicable thing to do. In order to lay that crossing it would be necessary to take up that switch and remove it. The next two tracks or three tracks offer no particular difficulty, but the next two crossings are right across the moving rails of the Lake Shore switches. It is not practical to put a grade crossing across switch rails. That cannot be done. The next crossing is right at the point of the frog be- 313 tween the crossing of the Lake Shore track and that of the Erie. And that again would be a scarcely feasible arrangement. Perhaps that would be best understood by examination by the counsel themselves. It would make a very complicated arrangement, which would scarcely work. I would say, however, that it would be possible to re-lay all these tracks so as to make grade crossings practical, but the objection to their use would remain. 314

Q. That is relatively practicable; that is, it could be done?

A. It could be done; it could not be done at all as they are now.

By a commissioner: These frogs would have to be removed to some other place?

A. They would have to be removed away.

Q. By counsel resuming: At the point of the proposed crossing as made by the Lackawanna, you say 315 they crossed ten tracks?

A. They do.

Q. At the point of the proposed altered route, how many tracks do they cross?

A. Seven.

Q. By a commissioner: The frogs at the switches?

A. No, sir; at that point it would be free from that difficulty.

316 By counsel resuming: Q. What is the difference from one center line from the other?

A. Measured along the Erie Railway it would be one hundred and forty feet; measured along the Lake Shore road it would be two hundred and twenty feet between the two lines, the original line and the proposed line.

Q. The center line of the proposed route and the center line of the proposed alteration?

A. Yes, sir.

317 Q. Now, as one of the points in facilitating the business at this point would the transfer business be least interrupted by having the route of the Lackawanna where it is proposed than as they propose it as being further away from the business points?

A. Do you mean regarding them both as grade-crossings or regarding them as presented?

Q. Regarding them just as they are?

A. Just as they are presented?

318 Q. Yes?

A. They would be infinitely less interfered with by the proposed line.

Q. That is by our proposed line?

A. Yes, sir.

Q. That is an over-head crossing?

319 A. Yes, sir; considered as a grade-crossing there would be less interference by the proposed line than by the original line granting both routes to be put down as grade-crossings, a thing which I am not willing to grant at all.

Q. Up to the last answer you were referring to the graded crossings?

A. Up to the last I was referring to the original line as a grade-crossing, and the altered as an over-head crossing. But I say the latter goes over seven crossings instead of ten, and would very much less interfere if

built as an over-head line, and somewhat less if built as 320
a graded-line.

Q. The greater distance from the yard where this transfer business is going on would tend to make the proposed crossing the best one, even assuming them both to be at grade?

A. It would, together with the fact that it would only cross seven tracks instead of ten, and it would not cross them over switches which would not be practicable to work with crossings over them. 321

Q. In your experience and from your knowledge of railroads, important railroads, is this a condition of things that is at all usual that a main freight line of a road like the Erie, the main freight and passenger line of a road like the Lake Shore, a main freight and passenger line of a projected road like the Lackawanna, should all cross each other at grade within that limited area?

A. It is not usual, sir; but I am sorry to say that 322
there are several instances of it in this country.

Q. Is it a usual thing in present railroad construction?

A. No, sir; bitter experience has taught all of them to avoid it.

Q. Have you examined this map which accompanies the petition in this case?

A. I have, to a certain extent.

Q. Have you examined on that map the proposed 323
line or lines of the Lackawanna, and also the proposed alterations of the Erie and Lake Shore?

A. I have done it to a certain extent, but I cannot say that I am thoroughly familiar with them.

Q. But you have made an examination of this map just as it is, both with reference to the route or the line, the allignment, and also in reference to its profile?

324 A. I have examined them on a map and examined them on the ground, several times.

Q. Now, taking the lines as proposed by the Erie and Lake Shore, and I will ask you if those are practicable, feasible lines to build and to operate?

A. I think so, sir.

Q. There is nothing in any curves that there are or anything like that which makes the proposed alterations in any manner impracticable?

325 A. Nothing.

Q. And does your answer cover not only the matter of the alignment but also the matter of the elevation, grade of the alterations?

A. There is nothing impracticable about either of them, sir.

Q. What is the steepest grade that this altered line has, as proposed by us?

A. It appears to be sixty-six feet to the mile.

326 Q. Have you an acquaintance with the Lackawanna line which would enable you to state as to any other grade that they have as steep as that of their own suggestion?

A. I only know by common report, sir.

Q. You don't know from an examination of their map?

327 A. Not from my own knowledge; I think that their engineer can tell you that they have grades of 110 feet to the mile.

Q. Taking that line as it is represented in this elevation, is any engineering question presented of any difficulty?

A. There would be possibly some choice as to the character of the structures that would be selected to carry out the plans.

Q. Between an embankment or between a wooden trestle and an iron trestle, is that it?

A. Yes, sir, or how far the embankment should be 328 carried, how far retaining walls should be carried, if any, and where trestled, and where bridge should be substituted. There is nothing whatever in the proposed alteration which cannot be built perfectly well.

Q. Or that present anything but the ordinary questions that come up in engineering construction and railroad ?

A. Yes, sir. How best to carry the road at the level indicated with the least possible expenditure of money. 329

Q. You examined that locality there yesterday, did you not ?

A. Yes, sir.

Q. And you say both on the north and also on the south side of this crossing the land in that region ?

A. Yes, sir.

Q. All these blocks running by Fitzgerald and Katherine and Sidway and Hamburg streets ?

A. I did. 330

Q. And before that you had an acquaintance with that locality ?

A. I went there and made an examination myself some time before.

Q. Now will you tell us if this line, built as we propose, seriously or in any way damages that locality beyond what railroads ordinarily damage, in going through any locality ?

331

A. Well, I think not, sir.

Q. There would no more result from it than ordinarily results from the construction of a railroad through any place ?

A. There would be less, because it would be up in the air, and thus not liable to collision with surface traffic.

Q. And these streets would all have over-head crossings ?

332 A. Not all of them; a certain number of them would.

Q. At present, as the line comes through, all these streets would be graded crossings?

A. They would.

Q. They would be crossed at grade?

A. They would.

Q. By Mr. Locke: I understood you to say that they would all be over-head crossings?

333 A. Not all of them.

Q. By Mr. Milburn, resuming: Taking any part of this proposed altered line, would the structures involved by our proposed alteration, injure or damage the property along which the line is laid, any more than a graded line?

A. I think they would less.

Q. About what is the distance, can you tell us, between Binghamton and Buffalo?

334 A. Some two hundred and three miles, I understand, sir.

Q. Can you give us a rough estimate of how much more line they would have to build in this proposed alteration, if any?

A. That you can get from the map.

Q. This change is a deviation over how much of their line, about two miles?

335 A. Oh no, less than that, nine thousand feet, a little less than two miles; if you add the two lines A and B together it makes a little over two miles.

Q. Taking line A and B together this deviation extends over about how much line?

A. A little less than two miles. The main deviation seems to extend here about nine thousand feet.

Q. And the main deviation is in the neighborhood of two hundred feet, is it not; I mean of the route of the alignment?

A. About one hundred and sixty feet, measured at 336 right angles.

Q. And that this Hamburg street or Alabama street end of the change the new line, the proposed altered line runs right into their proposed line of the road ?

A. It does.

Q. I will ask you if the dangers of a graded crossing are enhanced in snowy and foggy weather ?

A. They are, sir.

Q. Materially ?

337

A. Very materially in foggy weather, and to a certain extent in snowy weather. In the first place, because the signals cannot be seen ; and second, because it is more difficult to stop a train when the rail is slippery.

Q. How about the effect of snow blockades, such as there are at the city of Buffalo, with all the railroads crossing at this point at grade ; or is that included in your general answer, that the snow increases it ?

A. Well, the difficulty of working any dangerous 338 spot on the railroad is of course largely enhanced by bad weather. That is a general answer, and covers the whole case.

Cross examination, by Mr. Locke :

Q. The main passenger depot of the Erie road is on the corner of Michigan and Exchange streets, is it not, in the city of Buffalo ?

339

A. It is, sir.

Q. The main passenger depot of the New York Central road is west of Michigan street, in the city of Buffalo ?

A. It is, sir.

Q. You have a grade crossing of the main line of the New York Central with all your passenger trains, have you not ?

A. We have, sir.

340 Q. You have a grade crossing at the point we are talking about here for your freight tracks ?

A. We have.

Q. You have a grade crossing of your road by the Buffalo, New York and Philadelphia road, in the city of Buffalo, have you not ?

A. We have, sir.

Q. You have a grade crossing of the Erie road by the Buffalo, New York and Philadelphia at Olean, have
341 you not ?

A. We have.

Q. And you have a grade crossing across the New York Central tracks at Niagara Falls, have you not, by the Erie and International ?

A. We have.

Q. You have a grade crossing at the International bridge in the city of Buffalo, have you not ?

A. We have, sir.

342 Q. Can you tell me how many accidents have occurred at either of these crossings within the limits of the city of Buffalo, within fifteen years, or since your connection with the road—eight years ?

A. That, I cannot say, but I know that accidents have occurred there repeatedly.

Q. Have you had any other accident at any of these crossings except one accident at the Buffalo, New York and Philadelphia road, where your engineer ran sixteen
343 hundred feet and hit a train, at the Philadelphia road ?

A. We have had one there and two at the International bridge last year.

Q. Have you had any at the main line of the New York Central in ten years ?

A. That, I don't know.

Q. Have you ever heard of any since you were connected with that road ?

A. The gentleman behind you says we have, sir.

Q. Have you ever heard of any until this moment, 344
at that place ?

A. No, sir, I cannot say that I have.

Q. Now, into the New York Central depot run all
the trains of the New York Central road, do they not ?

A. Yes, sir, they do, all the passenger trains.

Q. A considerable portion of the time all the trains
have run in that have come to Buffalo from the Great
Western road ?

A. Yes, sir.

345

Q. And from the Grand Trunk road ?

A. Yes, sir.

Q. Now, have you had any collisions at the point
that we are talking about, that you know of, within eight
years ?

A. I think we have, sir.

Q. How many ?

A. That I couldn't say, but I think it is three or four.

Q. You think you have had three or four in eight 346
years ?

A. Yes, sir.

Q. Anything more than a freight car broken up ?

A. No, sir, because we send nothing but freight cars
down there.

Q. Have you had anything that produced any seri-
ous injury down there, have you had a case of loss of
life by collision at the point we are talking about ?

A. That I couldn't say, but I will make inquiry and 347
let you know.

Q. Now, you were prominent in the laying out of a
grade crossing over the New York Central tracks, were
you not, to get to the International bridge ?

A. Yes, sir, and it was defeated.

Q. When was that ?

A. It was 1874.

Q. It was defeated by negotiation was it ?

348 A. No, sir, it was defeated by legal proceedings.

Q. You were sworn in that case, were you not?

A. I was.

Q. Did you not swear in that case that the risk of the accident was not a serious matter of consideration?

A. I don't think I could have put it in that way, sir.

Q. Did you not swear to that in substance before the commission?

A. No, sir.

349 Q. You had had a railroad experience of twenty-three or four years in 1874?

A. Yes, sir.

Q. You had been connected with a good many roads that had grade crossings?

A. Yes, sir.

Q. During that time probably every road that you had had anything to do with had crossed some other road at grade, or been crossed at grade?

350 A. Yes, sir, but the grade crossings were put in without any thought whatever, we would come to a road and would simply put in a crossing at grade.

Q. Do you mean to say that you were not competent to be the chief engineer of a first-class road, in 1874?

A. I was.

Q. You were competent?

A. I think so.

351 Q. And a knowledge in regard to a grade crossing is something that an engineer of a first-class road ought to know something about?

A. Yes, sir.

Q. And do you think your information has progressed so much since 1874, that you have more light on that subject than you had then?

A. Yes, sir.

Q. Now you say that the chief thing here is the danger of accidents?

A. Yes, sir. 352

Q. I understand you to emphasize that?

A. Yes, sir, I do.

Q. Expressing it in percentage, what per cent. would you say of the reasons against a grade crossing should be attributed to the danger of accidents?

A. Ninety per cent.

Q. Then nine-tenths of everything is the danger of accident?

A. Yes, sir. 353

Q. Now the law requires that every train shall stop at a railroad crossing, doesn't it?

A. No, sir, it does not.

Q. It does not require it?

A. No, sir.

Q. You are confident that the statute does not require every road at crossings to stop?

A. I am.

Q. A regulation of that kind is very readily adopted, 354
is it not?

A. Yes, sir.

Q. Now is the danger of accidents very much lessened in case trains do stop before they approach a crossing?

A. I think it is.

Q. Is it not practically eliminated?

A. No, sir.

Q. It is not? 355

A. No, sir.

Q. If both trains stop before they come to the crossing and wait for the target, why should an accident occur?

A. Because men disregard signals.

Q. It is the fallibility of human nature?

A. Yes, sir.

Q. Now take the case at bar here, do your trains

356 stop at that crossing; are they ordered to stop at that crossing?

A. I believe they do.

Q. Now assuming that the Lake Shore trains have to stop before they come to that crossing, owing to the manner in which their road is run, and your trains stopped there already, and assuming that the Lackawanna trains should all stop before they came to the crossing, do you not think that the danger of accident
357 would be very much lessened if they did not stop?

A. Yes, sir, it would.

Q. Or in case either of them failed to stop?

A. Yes, sir, it would.

Q. Now if you were going to have a crossing of your road you would consider that the question of the stopping of your trains at that crossing was a material element in the cause, wouldn't you?

A. Yes, sir.

358 Q. The delays consequent to stopping are a very important part of the expense?

A. They are.

Q. So that if all trains stopped already at that very point because of other matters than the Lackawanna crossing, you would not count that element so much, would you?

A. Not so much, no, sir.

359 Q. Now is it not a great deal better to have the Lackawanna crossing, if it is to be a grade crossing, at a point where the Lake Shore trains already stop?

A. Yes, sir.

Q. And if the Lackawanna is to have a grade crossing of the Erie freight tracks, it is a great deal better to have that crossing where the Erie freight trains already stop?

A. Yes, sir.

Q. Now there is no practical difficulty in adjusting 360
the switches down there at that point, is there?

A. They can be changed.

Q. And it is a trifling expense of a few hundred dollars?

A. It would cost something.

Q. But it is something that could be readily compensated for in money?

A. Yes, sir.

Q. Do you know the grade of the Lake Shore road 361
from the bridge to this point of crossing?

A. I do not.

Q. You know that there is a grade, do you not?

A. I know there is a grade, but I don't know what it is.

Q. What is the ordinary length of a freight train on the Lake Shore road?

A. About fifteen hundred feet.

Q. Assuming that the bridge is the summit, and that 362
the grade runs down from the bridge to the west, and down from the bridge to the east, is it not desirable that this point of crossing should be as far east as possible, so that trains can stop all on one side of the summit?

A. Yes.

Q. Now when would you say that the point of crossing on the proposed altered route is better than the point of crossing of the proposed route by the Lacka- 363
wanna road, do you not lay out of sight that fact?

A. No, sir, because the distance of a hundred and forty feet between the two cuts no practical figure in limiting the length of train that it is possible to stand between the crossing and the bridge.

Q. Are you sure of that?

A. I am so far as I can be without having measured it.

364 Q. This Lackawanna road is a competitor of the Erie railway, is it not, or promises to be?

A. It is.

Q. And a competing trunk line?

A. That is what it claims.

Q. It is quite as important for the Lackawanna road to have a freight connection with the Lake Shore, which is a western trunk line, as it is that the Erie should have it, is it not?

365 A. It is.

Q. If this trunk line was elevated thirty-five feet above the Lake Shore road, it could have no connection at that point, could it?

A. Not at that point, but it could at another.

Q. What other?

A. There are two or three lines here at either of which it could make a connection.

Q. You are also trying to make it an over-head crossing there?

A. Not at all points.

Q. Isn't the Erie road trying to make the Lackawanna cross the Lake Shore, and wherever it touches the Lake Shore go twenty or thirty feet above it?

A. There would be no difficulty in making a connection with the Lake Shore road.

Q. Assuming that it is twelve hundred feet, and only twelve hundred feet, from the Lake Shore bridge over Buffalo River to our proposed point of crossing; you take off 140 and that leaves 1,060; a train 1,500 feet long, that would leave 450 feet of the train the other side of the south end of the bridge, wouldn't it?

A. Yes, sir.

Q. Now, assuming that it is only 1,200 feet from the bridge to our proposed point of crossing, would you not say that was desirable to have that point of crossing as far east as possible?

A. That I answer, yes.

368

Q. And would you not say that removing it 140 feet west was undesirable?

A. I said that that would cut no practical figure.

Q. Wouldn't it in view of the fact that the bridge is so much nearer the road than you supposed?

A. No, sir; because in one case there might be five or six cars on one side of the bridge, and on the other, seven or eight; the longest train on the Lake Shore road would more than fill up the space if the figures 369 given are correct.

Q. How long is a car?

A. Thirty-one feet between the couplings.

Q. Who made that map number two?

A. I think it was made in the office of Mr. Haven, the engineer in charge of the Erie road; I don't know about this particular copy.

Q. Look at number two and the other copy and see if they are not identical; if the maps attached to both 370 petitions were made in the same office, from the same tracing?

A. They are made from the same tracing.

Q. And that tracing was prepared in the Erie office by the Erie engineer?

A. The engineer, yes, sir.

Q. Do I understand you to say that a railroad built across land adjacent to the Buffalo Creek road on the west, if built twenty feet high wouldn't injure that 371 probably any more than if built four or five feet high; or would injure it less than if built four or five feet high?

A. My answer referred to the land at the crossing, not to the land of the Buffalo Creek road.

Q. I am not talking of the land of the Buffalo Creek road; look on the map, now, I own from the Buffalo Creek road to that line, and the route as proposed by the Lackawanna road puts that about four feet above the

372 surface to which I practically, as it happens, must fill my land to make it valuable; it is just high enough to get it out of the water; do you mean to say that my land will not be injured any more by the construction of that road four or five feet high than it would be if it was constructed twenty-five feet?

A. I say it would be less injured by building it twenty feet high than by building it four or five feet high.

Q. Now, you know that if the Lackawanna builds 373 that road twenty-five feet high, there is nothing in the law which I can invoke to prevent that road from making an earth embankment there, don't you, giving me a crossing?

A. They would have to give you crossings.

Q. But barring that crossing, there is no law I could invoke which would prevent their making an earth embankment there twenty feet high across my road?

A. That I don't know.

374 Q. What do you think?

A. I don't know what the law is.

Q. Then you are competent to say whether it would harm me more to have it twenty-five feet high than it would five feet high or not?

A. I think so.

Q. Now, assuming that the law does give me no right to prevent them from building a solid embankment, which is the case; if a solid embankment is to be built, 375 they to give me one crossing, is not my land much more injured than to have it five feet high, where I could have a connection; I could drive over them at any point I saw fit, to make as many grade crossings as I saw fit, and wherever I saw fit?

A. Stated as you do, it is possible in that particular case you would be more damaged by the earth embankment?

Q. You spoke about the question of curves, you said

that there was nothing in the altered route which made 376
it any worse than the proposed route, as far as that was
concerned ?

A. I didn't say that, I said there was nothing which
made it impracticable.

Q. Which is better, a curve or a tangent?

A. A tangent.

Q. Which is the worst, a common curve or a re-
verse curve ?

A. A reverse curve.

377

Q. A reverse curve is a thing to be avoided on a high
trestle, is it not, or a high embankment ?

A. Yes, sir ; if you can.

Q. By your proposed route you have a reversed
curve on a high trestle, do you not, or on a high em-
bankment ?

A. On line A there is a reverse curve, on line B there
is not.

Q. How acute is that reverse curve ?

378

A. I judge it to be about a three degree curve.

Q. Is it upon a grade ?

A. It is.

Q. How much of a grade ?

A. It is a grade of fifty-two feet to the mile.

Q. Does that add to the difficulty of the matter ?

A. It adds to the resistance a little.

Q. Does not it add very materially to the resistance ?

379

A. No, sir.

Q. It does not ?

A. No, sir.

Q. Then if you were an engineer, going to lay out a
road, you would not go to any great endeavors to get rid
of a reverse curve on a grade of sixty feet to the mile ?

A. I would ease off the grade at that point probably,
so as to give an equivalent resistance to the resistance
on a straight line.

380 Q. You would not give any serious thought to avoid a reverse curve of those degrees on a grade of sixty feet to the mile, and on a high trestle?

A. No, sir; while I would always get the very best line and very best grade that I could, I would not hesitate to make that arrangement if necessary; I would not hesitate to adopt that arrangement if I thought necessary.

Q. Now, a considerable portion of that freight that crosses the Lake Shore track is not exchange freight,
381 is it?

A. No, sir.

Q. And about what proportion of your freight crossing the Lake Shore track there at that point is exchange freight?

A. Without having the figures at hand I could say in a general way that about seventy-five per cent. is freight from the warehouse, the freight-house down on the lake.

382 Q. The elevator and the warehouse about seventy-five per cent., in your judgment; now, the freight, that does not at any time go upon the Lake Shore road except to cross it?

A. Yes, sir.

Q. Now, that being so, and the dangers of collision being so imminent all the time, why have you never built an over-head crossing there?

A. Because we couldn't very well, sir.

383 Q. Why couldn't you?

A. We got into a bad arrangement at an early day and we have made changes ever since.

Q. Would there be any trouble in raising your tracks, you have land enough?

A. Yes, sir; I think we shall do it some day.

Q. All you have got to do is to commence back there and run up over the hill sixty feet high and get over there and land on the other side?

A. Very likely that will be the result some day. 384

Q. And that would eliminate all dangers of accident?

A. Yes, sir.

Q. But you never yet have seen the point where the danger was so imminent as to induce you to do that?

A. Well, we have been talking about it for some time past.

Q. Who have you talked with about it?

A. The officers of the road.

Q. Will you mention one man to whom you ever 385 suggested the idea of having an over-crossing there?

A. I think I mentioned it to the general superintendent, Mr. Boynton.

Q. When did you mention that?

A. I couldn't say.

Q. Have you within six months?

A. No, sir.

Q. Or a year?

A. No, sir. 386

Q. The importance of an over-head crossing has been growing on you the longer you have been connected with that road, has it not?

A. Yes, sir.

Q. But you have not mentioned it in a year?

A. No, sir.

Q. Have you in two years?

A. Possibly not, sir; but to answer your question 387 fully and fairly.

Q. Do you cross any railroad over-head except the New York Central?

A. Yes, sir.

Q. Where?

A. Here, across the New Jersey Midland.

Q. Where?

A. At Paterson.

Q. They built under you, didn't they?

388 A. They built over us.

Q. I am talking about your crossing any other road over-head except the New York Central?

A. We cross the Lehigh Valley at Waverly, over-head.

Q. You were built first, were you not?

A. That I don't know.

Q. How is the grade of the Lehigh Valley at that point?

389 A. It is below us.

Q. Isn't it perfectly level?

A. That I don't know.

Q. Do they sink their grade at all to cross you?

A. I think they do a little.

Q. How much?

A. A few feet.

Q. Is it five feet to the mile or ten feet to the mile?

A. I cannot say.

390 Q. It is very near level?

A. Pretty near.

Q. Now about how much are you above the Lehigh Valley at that point; how far is it from their rail to your sub-grade?

A. I think about twenty-two feet, something like that.

391 Q. How much are you above the New York Central where you cross them out here on the Erie and International line?

A. Nineteen feet, I think.

Q. Would it cross it nineteen feet above their road?

A. Nineteen feet in the clear.

Q. Will you swear why you put us up twenty-five feet over you by this map?

A. In order to give sufficient depth to the floor beams and trusses which you would probably want to carry in the bridge.

Q. You put these up there five feet higher so that 392
we could make a bridge?

Q. We should be satisfied with twenty feet in the
clear.

Q. Look at the Erie map?

A. We should be satisfied with twenty feet in the
clear.

Q. Then why didn't you put it so?

A. Because you have got to have additional room for
floor beams. 393

Q. Have you got to have four feet for that?

A. It depends on the kind of floor you select.

Q. An ordinary railroad bridge, is it necessary to
have four feet?

A. Pretty nearly.

Q. From our sub-grade?

A. Yes, sir.

Q. To get our floor beams in?

A. Yes, sir. 394

Q. I see on your map here you put your sub-grade
twenty-five feet above you, don't you?

A. No, sir. That is an error.

Q. Your map says sub-grade.

A. That is an error.

Q. An error in your map?

A. Yes, sir.

Q. If that is so, and assuming that it is an error, then 395
will you explain—will you show the commission how
you connect with us where you leave us; figure it out
yourself on your map, and you show that you leave our
grade eighteen inches from us?

A. I say that would be quite sufficient to put the
bottom of their rail at this level.

Q. But I am talking about what your map says;
taking the map just as it is, doesn't that mean a sub-

396 grade eighteen inches below our rail, because you can see where it comes out very readily?

A. Possibly it may.

Q. Now if that means sub-grade, then you have put the Erie about three feet anyway higher than there was any necessity of our going, have you not, for your good and for ours?

A. That grade can be lowered three feet, in my judgment.

397 Q. Without injury to you?

A. I think so.

Q. How much would that give you in the clear then?

A. Twenty feet.

Re-direct examination :

Q. What kind of crossings does the Erie road build now?

398 A. We are now building a new line of our road in the vicinity of Jersey City, which is ten miles long. Runs around a bend of the Passaic River and the City of Paterson. In building it we crossed the Midland Railroad, and although we could have saved four months in time, and about seventy thousand dollars in money by having a grade crossing, we have preferred to take the additional time and to spend the additional money rather than to introduce the grade crossing between that road and ours.

399 Q. In other words, it comes to it that in the railroad development that there is now in the country, especially in cities, that this question of grade crossings is becoming more important than at any other time?

A. It is.

Q. Do you know how many railroads are projected into this city at the present time and filing maps?

A. I do not.

Q. Do you know the West Shore is?

A. I know the West Shore is.

Q. Do you know the Buffalo, Pittsburg & Western 400 is?

A. I know that it is; I have heard of one or two more, I think.

Q. You have not examined their maps to know all about their grade crossings?

A. No, sir.

Q. Where the Lackawanna brings its own main line over the main line of the Erie Railway Company, what sort of a crossing do they themselves elect to have there 401 at William street?

A. An over-head crossing, sir.

Q. Where the main line of the Lackawanna road crosses the junction road of the Erie Railway, on its way to the falls, what sort of a crossing has the Lackawanna chosen there?

A. An over-head crossing, I understand.

Q. Where the Lackawanna road crosses the main line on its way to the falls, what sort of a crossing has it 402 there?

A. I understand it to be an over-head crossing.

Q. Then wherever their main line for western business by Niagara River is made out by themselves, in every case they have laid out an over-head crossing for their own main line?

A. So I understand, sir.

Q. Would you tell me what facts have arisen, or what would lead you to the strenuous opinion that you 403 have to-day about grade crossings, or in these times in reference to previous times?

A. Well, I have seen the effects of increase of traffic and the dangers which are incurred in operating roads, and the more I have seen the more I have been convinced of the desirability of avoiding grade crossings.

Q. I will ask you if in all the crossing matters that come up in your line to-day with other lines, if that is

404 not a question of supreme importance in all negotiating to avoid a grade crossing?

A. I think so, sir.

Q. And if that is not the established sentiment of the engineering and railroad people at this time?

A. It is, decidedly.

Q. The volume of business that is passing over all these roads is increasing from year to year, is it not?

A. It is; in connection with that I desire to make a
405 statement to the commissioners, which will explain why my own views have, to a great extent, changed in the past eight years on the subject; At the time that I testified in the case referred to by the counsel, in 1874, I had just come to the east, after having spent twenty years of my life in building railroads in the west; there the traffic was light, and grade crossings were not thought objectionable; business had not yet increased to such an extent as to bring about inevitable accidents which result
406 from grade crossings; and I must confess that during the past seven or eight years that I have spent in the East, and have seen the effect of the large volume of traffic which now exists on these roads, and which didn't exist on the western roads with which I was formerly connected, I have been led materially to change my views as to the desirability of grade crossings; I now think them very much more objectionable than I did seven years ago.

407 Q. Where the Erie railway crosses the N. Y. C. & H. R. R. R., I think it is on the way to the Falls, will you please explain what sort of a crossing that is, the trestle, I mean?

A. The Erie road is carried across the Central by a bridge upon a trestle-work, and a bridge to cross its tracks.

Q. And how long is that trestle?

A. It is about fifteen hundred feet long, I think, on

each side of the bridge; the bridge itself is a hundred 408 feet.

Q. Then the trestle is fifteen hundred feet on each side?

A. Yes, sir.

Q. I will ask you if the whole route of the Erie International railway was not changed to obviate a grade crossing in the New York Central near Black Rock?

A. It was.

Q. The entire route of the railway was changed? 409

A. Not the entire route.

Q. No, I mean at that point?

A. At that point.

Q. As a matter of engineering, of how much importance is a three degree curve, is that an ordinary curve?

A. Oh, it is in common use.

Q. Now, as to access between one part of a lot and another, is a higher grade not preferable in allowing an under crossing? 410

A. Yes, sir; if carried over a trestle-work.

Q. On a grade that is only four or five feet, necessarily you have to build up to have an over-head crossing from access between two parts of the same land?

A. Yes, sir.

Q. You cannot have an under crossing there?

A. Not well.

Q. Now, isn't the entire business that a road like the Lake Shore Company do, and the road like the Erie 411 Company do, very largely limited by the difficulties in matters of exchange and transportation at their termini?

A. Yes, sir; the traffic of all the trunk lines is now limited by their facilities, not by their track.

Q. That is the fact both in connection with the Erie and the Lake Shore at their particular Buffalo termini?

A. Yes, sir.

412 Q. One of the main facts in that is the delay and slowness of moving and passing their freight along with such terminal facilities as they have?

A. Yes, sir.

Q. And any cause which comes up to impose more delay in the making up and distribution of their trains at a terminus like the city of Buffalo is another great cause limiting the working capacity of a large railroad?

A. It is.

413 *Re-direct examination*, by Mr. Greene:

Q. When you speak of an overhead crossing three feet lower; that that would be satisfactory you refer to the crossing over the Erie track, do you?

A. Yes, sir.

Q. Do you know how much higher the present grade of the Lake Shore track at the point of crossing with the Lackawanna is than the Erie?

A. Four feet and a half.

414 Q. The Erie was the first road constructed there, or don't you know?

A. I don't know.

Q. At the time that crossing was constructed the business of the Erie and the Lake Shore was very considerably less than at present?

A. Oh, infinitely less.

Q. It has doubled within the last—what period?

415 A. Doubled within the last five years.

Q. And a great increase year by year previous to that?

A. Yes, sir.

Mr. Milburn: I will ask you if it is not a matter of discussion and negotiation at times between the New York Central and Erie how to devise a system of arrangements to obviate their crossings—if it is not a matter that is mooted and talked about?

A. Not to my knowledge.

Mr. Locke: You spoke about the Lackawanna cross- 416
ing down at Main street and at Black Rock ; have you
looked at the grades of the Lackawanna road there, too,
in connection with the grades of the Erie International ?

A. I have not.

Mr. Milburn: If you will take the projected lines
“ A ” and “ B ” of the Lackawanna, can you, as an engi-
neer, taking their main line and coming down here, see
any necessity of both of those lines ?

A. It is a puzzle to me.

417

Q. What you mean is, that you cannot see why both
lines “ A ” and “ B ” are laid out there ?

A. That is what I mean.

Q. By Com. Clark: Is there any practical difficulty
in constructing the Lackawanna road on the route which
they have selected upon an elevated plan like the plan
which has been proposed by the petitioners ?

A. No, sir ; I think there would be no material diffi-
culty ; it wouldn't be quite as good as the proposed line. 418

Q. What benefit, if any, would accrue to the public,
or to the owners of lands, or to these railroads, by rea-
son of constructing the line as proposed in the altered
way, than to construct the line on the elevated plan on
the route which they have selected ?

A. I cannot see that any advantage whatever to the
public would result from building the line as they have
proposed.

By Mr. Milburn: But what advantage would result 419
from building an over-head crossing on our alteration, as
compared with building an over-head crossing on their
proposed line ; what advantage or benefit would accrue
there to the public or any other parties, or to the rail-
roads, the Erie, or the Lake Shore, by building at a
point which has been indicated by the petitioners there
over the line if built at the point indicated by the Lack-
awanna route if built on the elevated plan ; would there

420 A. The location of the various columns to carry the bridge would be more readily effected upon the proposed altered route than upon the route originally selected by the Lackawanna Company; that would be the chief difference; they would also need then to carry bridges over seven tracks instead of ten.

Q. Would it be a detriment to the railroads particularly; any more detriment to the two railroads by reason of locating it at the point proposed by the Lackawanna
421 Road over and above the detriment the other way?

A. It would cramp them somewhat more by the necessary position of the piers of the bridge.

Q. There would be no physical difficulty in crossing the proposed crossing on an over-head line?

A. I think not.

Q. What would have to be the span of the bridges?

A. There would have to be a series of bridges with
422 columns to support them between the tracks.

Q. Would those columns be a detriment to the company?

A. To a certain extent; it would cramp their laying additional tracks if it should be necessary; more on their selected route than on the altered route presented; there would be a series of bridges; it would not in any case be spanned with one span; there would be columns and piers; columns and piers on the proposed alteration
423 would be less objectionable than the other route.

By Mr. Locke: Q. Don't it take a longer bridge on the proposed line than it does on the altered line?

A. A very little longer.

Q. A hundred feet longer?

A. I don't think it does as much as that; practically it would not affect the bridging much.

Q. The bridge over the proposed line of the Lackawanna would require a longer span than the bridge over the proposed alteration?

A. Yes, sir; but we split up with a greater number 424 of spans.

Q. How much further is it from the eastern line of the right of way of the Lake Shore road to the western line of the Erie on the altered line, than on our proposed line?

A. One hundred and fifty feet further; it does not lengthen the bridge that amount by any means.

By Mr. Greene: Q. In addition to the advantages that you have stated to be effected by the proposed 425 alteration, would it not, if constructed according to the proposed alteration, avoid crossing through about the center of the large tract there owned by the Lake Shore and Michigan Southern Railroad, which is bordered in blue upon the map?

A. Yes, sir; it would.

WILLIAM W. BUFFUM, sworn on behalf of the petitioners, and examined by Mr. Greene, testified as follows: 426

Q. What is your business?

A. I am a car agent for the Lake Shore road.

Q. What are your duties as car agent?

A. Well, I have charge of the car records and keeping the movement of all the cars that pass into and out of Buffalo, and trains; also the interchange of freight between the connecting lines with the Lake Shore.

Q. How with reference to the transfer business with the Erie? 427

A. I also have a record of that; I have daily reports of all of the transfer and through business.

Q. How long have you been acting in that capacity?

A. About fifteen years.

Q. To what extent would you say the business of the Lake Shore has increased during the last four or five years?

A. Well, it has nearly doubled.

428 Q. And previous to that time has there been constant, gradual increase in the business from the time you commenced?

A. Yes, sir; from year to year.

Q. When freight trains arrive at the point where the crossing is proposed, what is done in the way of distributing the cars at that point?

A. Well, on the arrival of the freight trains they would pass over this contemplated crossing and also the
429 crossing of the New York, Lake Erie and Western tracks, and the trains move down into the yard below these crossings, and there the trains are switched out; that is, they are sorted; we have chalkers that mark the cars for the Erie road and Central road and points designated for the cars to go.

Q. See if these are all the points; the town freight, South Shore, Buffalo Creek, the Erie Transfer House, to the place for putting ice in cars, the company's coal, New
430 York and Philadelphia Railroad, the Central Railroad, the stock yards at East Buffalo, the rolling mill, the weighing place, and also the crippled cars, as they are called, and the emigrant cars?

A. Yes, sir.

Q. Are they all sorted and distributed, leaving out of view the emigrant cars, to these different points?

A. Yes, sir; leaving out the emigrant cars, all that
431 you have named there are sorted and distributed in the yard.

Q. Cars for these different places being interspersed hap-hazard through the train?

A. Yes, sir.

Q. Now, in order to sort them out and distribute them to these various places, what is done at these switches at about the point where it is proposed to cross?

A. Well, they all have to be switched out according

as the cars are marked, of course they all come in in 432 trains.

By Com. Clark: All the counsel wishes to know is the manner of doing it.

A. Well, that is done by a switch engine, that distribution of freight has to be done by the yardmaster using his yard switch-engines to accomplish the work.

Q. By counsel, resuming: He will go down and hitch onto one or more cars, and after he hitches on, then where will he run in reference to this proposed 433 crossing?

A. He will hitch onto the back end of the train; as a general rule that is the way they have to do, then they will pull up over these proposed crossings.

Q. Over these proposed crossings?

A. Over these proposed crossings; if they have a large train, they have to get clear up by the Buffalo Creek bridge, and then they draw them over onto these tracks; the main tracks where the trains come down 434 into the yard, they reach nearly to the Erie cross-over, so that to get in onto these tracks we have to pass over the Erie cross-over, and also it reaches the contemplated crossing of the Delaware and Lackawanna; we have to get up there and switch them off onto the various tracks; sometimes it will take fifteen or twenty minutes, may be half an hour, to switch some trains out.

Q. That is, the switch engines will be constantly passing and repassing at the point where that crossing 435 is proposed?

A. Yes, sir; of course that depends altogether on the number of cars; you take some trains, they are more mixed than other trains, that is mixed freight; what we call mixed, that is, cars for various points.

Q. It takes you longer to distribute those?

A. Yes, sir.

Q. Different cars for different points?

436 A. Yes, sir; they would require more switching.

Q. You confine that to the cars, and not to the contents of the cars?

A. Yes, sir.

Q. Sometimes, in this process of switching, the same car will necessarily have to be switched out back and forth several times over this crossing?

A. Yes, sir; in order to get other cars out.

Q. Now, in reference to the making up of trains?

437 A. Well, we have to use that upper yard for making up nearly all of our trains, that is for town freight; that is the city yard proper; we make up our trains there, also everything that goes to the Erie road.

Q. Do you use substantially the same process in making up trains as you do in distributing cars from trains, as far as passing and repassing this point of intersection is concerned?

438 A. We do to a certain extent; yes, sir; our lower yard is used principally for the sorting of cars; we use those tracks for cars that come in to the Buffalo consignees, and they remain there for the time it takes to unload, and for that reason we do not have room to make up trains there, and hardly ever make up a train that starts at that lower yard, but the cars that are loaded at the Buffalo town-house, and from the boats, the canal-boats, those are pulled up, and we run them
439 right up, and we generally make the trains on what we call Strong's and the Ryan track.

Q. Where is that in reference to this crossing?

A. That is up at the Erie crossing; they have to run up there, and the switch is just this side of the Erie crossing.

Q. Do you, in making up these trains, run back and forth substantially as you have described in the distributing cars from the trains that arrive?

A. Well, about the same.

Q. By Mr. Locke: What do you mean by that? 440

A. Well, we have to shift them out, and get them ready for trains, and we do that work in that upper yard; it is simply on the other side of the yard.

Q. By counsel, resuming: It is simply reversing the process of distributing the cars?

A. Yes, sir.

Q. Sorting them out, and putting them here and there?

A. Yes, sir. 441

Q. And in order to do that, you have to cross and recross this point of intersection?

A. Yes, sir; we have to do that in making up the trains; the trains that go west, we make them up on the tracks that run north and south, west of the main track.

Q. The Erie have a crossing for their freight line?

A. Yes, sir.

Q. Just below the proposed point of crossing? 442

A. Yes, sir.

Q. To what extent does that interfere and delay the business of the Lake Shore Company?

A. Well, when our business is heavy we are bothered a great deal by the Erie Railway people crossing our tracks.

Q. Just tell the commissioners how, and in what way, and give them an idea of how the business is done there? 443

A. Well, very often we will have two or three trains made up to go out from the city yard when their time is up for leaving, and also we are liable to have trains that come over on the compromise that pass right up through this yard too, and go out over the Erie crossing, and also we have had trains trying to get into the yard about the same time, because we run trains that leave every hour, and trains arriving about the same way, and if the Erie

444 Railway have the target at the crossing, we have to wait before we can do any more business until the target is surrendered to us; and I have known our business to be blocked from half an hour to three-quarters of an hour at a time, and I have made several complaints to Mr. Taylor, the superintendent of the Erie Railway, relating to that; and we have had cases in the winter, when our business was heavy, where we have held passenger trains twenty minutes at the Buffalo Creek bridge; 445 could not get in on account of the Erie using the cross-over track.

Q. In reference to the sorting out of the cars and distributing them upon their arrival, will you please describe that process a little more fully, so we may understand whether, if, for instance, there are cars distributed at different points in the train for East Buffalo, whether you would take all of those out, run them out by themselves first, and then sort out from the train the cars that 446 might be destined for some other point by themselves, or whether you go along and sort them out as you reach them in the train?

A. Well, as a general thing we sort the cars out as we reach them in the train. We have to do it in that way in order to get through with the regular switching that is required of the train. For instance, the head car might be for the N. Y. L. E. & W. road, we would simply throw that out on a track by itself for the Erie 447 freight, and maybe the next two cars would be for East Buffalo, we would throw them off on another track, and we have to pull up and make a switch every time we do that.

Q. By pulling up and making a switch you would have to cross and recross the point where they propose to cross the tracks?

A. Yes, sir, I think we would, that is where the train is a full train; I know we run up over the east crossing,

and I think we reach the point where the Delaware and 448
Lackawanna contemplate crossing us.

Q. How many cars are there in a train?

A. From thirty-six to thirty-eight, sometimes forty cars in a train; and we have one engine that brings in fifty cars every day, that is her regular number to bring in from Dunkirk fifty cars, and then our way freight, very often that will have forty or forty-five cars; they pick up everything at stations along the line, but the regular trains, what we call the regular freight trains, 449 they have from thirty-six to thirty-eight, and sometimes forty cars, and in switching—I did not explain the switching out of a train—we would get out, as I say, the Erie cars and throw in on a track by themselves, and the cars from the Central would come in on another branch, and the cars to the freight-house would be thrown somewhere else, and of course we would be pulling up, passing over this crossing and shifting, till we get our shifting done, and then we would have cars sorted to the different 450 places where they should go, and then we would take the switch engine and take the Erie cars.

Q. Run those cars up over this same point of intersection, and from thence back again to their proper places?

A. Yes, sir.

Q. By Com. Clark: What is the distance between the proposed crossing and the Erie crossing?

451

A. About two hundred feet, according to the map.

Q. Between the line as proposed by the Lackawanna road, and the Erie crossing?

A. Yes, sir, it is between one hundred and seventy-five and two hundred feet.

Q. By counsel, resuming: And immediately below the crossing of the Erie, you have from these main tracks, switches leading to the various track in the yard?

A. Yes, sir.

452 Q. Which is situated immediately below the Erie track?

A. Below the Erie cross-over.

Q. About what is the length of that yard?

A. Well, I don't know as I could get at that exactly.

Q. By Com. McAlpine: How long is a train of forty cars?

A. Well, I would say that a train of forty cars, from my best judgement, including the engine and tender,
453 would take up fourteen hundred feet track room.

Q. Now, you may give us the length of a tender and engine?

A. Well, I would say about forty feet.

Q. Well, do you know?

A. No, I never measured, I would say about sixty feet.

Q. What do you say the effect would be upon the traffic of the Lake Shore road, the business of it, at that
454 point, if there was another crossing at grade at the point proposed, with the amount of business substantially the same as that now done by the Erie?

A. Well, I should consider, figuring from the delays that we now have, our business being block on both sides of the Erie cross-over as we have had it, that if there was another crossing made over the Lake Shore tracks, that they would so interfere with our business that we would be about unable to do our work; I do not think we could
455 do it and keep it up as it ought to be done.

Q. By Com. Clark: You mean as you are doing now?

A. I know we could not do it as we are doing now, because we now find a great many delays and a great annoyance and trouble caused by the Erie crossing us.

Q. By counsel, resuming: Describe how those annoyances occur, and how these detentions are caused?

A. The detention of course is caused by any railroad ⁴⁵⁶ crossing us, when they are using their own crossing, if they have a train of cars, and they get the target, and shut us off from either side, working on either side of our tracks, we have to stand still until they surrender the crossing to us. Now, if we had to compete with another crossing like that, the delay would be twice as great, necessarily it would be twice as great, and that would interfere with our business greatly.

Q. That is to say, where the Erie people were using ⁴⁵⁷ their crossing, you would be delayed?

A. Yes, sir.

Q. And at the same time the Lackawanna Company might not be using their crossing, but still you would be delayed just the same; when the Erie gave you the target it might be taken by the Lackawanna, and they continue, and in that way exclude you more than the ratio of two to one?

A. The Erie train might be leaving their crossing, ⁴⁵⁸ and we get the target right away, and just about that time the target was given to the Lackawanna road, then trains coming east would be held out by that target, and they would be using the right of way, and trains could not pass there.

Q. What would be the effect upon other incoming and outgoing trains resulting from these delays of twenty to forty minutes that you speak of?

A. Well, that would delay our passenger trains and freight both—it delays them so that they cannot make ⁴⁵⁹ their time.

Q. A detention here will operate to detain trains more or less along the road?

A. Yes, sir; trains must leave on time; if it leaves behind time, it is delayed on the road, held by other trains; and we have to use one track through

460 Dunkirk; we have to use one track both ways there; we have not a double track there; it deranges the time.

Q. By Com. McAlpine: So that they do not run on schedule time?

A. They have to be held at stations, waiting for other trains.

Q. By counsel, resuming: Is the passenger business on the Lake Shore road done on one track?

A. No, sir; I say we have places where we only
461 have one track. In going west we run right through the depot at Dunkirk with our freight trains, and the passenger business that comes east they pass right through the depot too, on the same track.

Q. The business done at this intersection by the Erie is freight business exclusively?

A. Yes, sir; that is all freight.

Q. You cross over to the left-hand track going out?

A. Yes, sir.

462 Q. You run up from the main passenger track through the yard to a point about midway between the line proposed by the Lackawanna Company and the proposed altered line?

A. Yes, sir.

Q. There you cross over to the left-hand track and continue out on the left-hand track?

A. Yes, sir; all the passenger and freight trains take the left-hand track in going west, and also in coming
463 east; we run left-handed coming east; so we really do run left-handed.

Q. All the way from Buffalo to Chicago?

A. Yes, sir.

Q. The passenger trains coming in on that track proceed to what point, or do they keep that track next to the lake directly in?

A. There is no crossing in this track; they pass right straight in on that track; the freight trains we

have to switch right in here, and we often let them over 464
in onto this switch, to take the other tracks to get down
into the yard. Just below the Erie cross-over we have
branch tracks that connect right along through with
switches.

Q. When they get down to the point just below the
route proposed by the Lackawanna Company, they
switch off to the right?

A. From the left-hand to the right-hand track com-
ing in. 465

Q. By Com. Clark: State right there why you do
that?

A. We do that in order to get them down into the
yard. The yard of the east-bound freight is at the right
of the track. It is to get them right into the yard. It
is simply a cross-over switch.

Q. By counsel, resuming: On the lake side the
company has not sufficient room for tracks?

A. No, sir. 466

Q. The tracks in the yard are mainly on the right
hand?

A. The tracks in the yard are mainly on the right
hand of the main track as you come in.

Q. In effect, then, the east-bound and the west-
bound freight traffic of the Lake Shore road cross each
other at about this point where they propose to cross?

A. Yes, sir.

Q. And the necessity for that is occasioned from the 467
fact that the yard is located as it is, and the inadequate
amount of land on the lake side of the yard to accom-
modate the traffic?

A. Yes, sir; necessarily this freight has all got to
pass out here. It seems to me to be immaterial about
the amount of land on the west side of the main track;
we make up our trains there; of course we have only
two tracks to do that on, to make up all our town trains

468 to go west, but necessarily all this freight that comes into Buffalo and goes out of Buffalo, for the Erie, and the Central and the town business, and all other parties that are interested in shipping freight for us, that necessarily has to pass in through this narrow neck, and through these crossings, and in getting out it has got to pass over it ; and in getting freight to the Erie road of course our trains when they come in, they pass these crossings and go down into the yard and to get freight
469 to the Erie, and we have got to go to work and re-switch that and draw it all out here, and cross over these proposed crossings, and also the Erie crossing, and come way up near the bridge, and then we have a switch-off; there is a track at the right—a Lake Shore track—a branch track to run off down into the Erie.

Q. You have stated that in transferring that freight to the Erie, you pass down those tracks ?

A. We pass down.

470 Q. Now, in reference to the transfer from the Erie to you—are the cars switched, and do they pass over this proposed point of intersection in the same manner as the cars that are sent by you to the Erie, as you have just described ?

A. The cars that come to us from the Erie, that is, through cars, pass the cross-over tracks—pass our tracks, that is, the Erie cross-over. They are delivered to us on what we call the Harts track. The Harts track
471 is the most westerly track, and it is a curved track that connects with the cross-over track of the Erie, and the Lake Shore track.

Q. Now, you have told us how the freight that is brought in by the Lake Shore is sent down to the Erie ?

A. Yes, sir.

Q. Now, just describe in language so that the minutes will show what you mean ; how the freight delivered by the Erie to the Lake Shore in reference to this point—the through freight ?

A. All the through freight is delivered to us by the Erie on a circle track that connects with the cross-over track of the Erie, and the Lake Shore track connects with the track of the Erie road. The cross-over, of course, belongs to the Erie here. It is a circle track, and that track connects with the Lake Shore track on the west side of our yard. It is a short track. We receive freight from that point to run through, and then that is switched down in the yard below the Erie cross-over, and made into trains, and then it passes out over the cross-over track.

Q. In receiving that from the Erie, and placing in the trains of the Lake Shore, do the cars necessarily pass over the proposed point of intersection or crossing by the Lackawanna road?

A. They do in switching the cars to make them in trains after we receive them.

Q. By Commissioner McAlpine: These trains from the Erie of through freight which are delivered to the Lake Shore, are not mixed trains; they do not require assorting as the other trains that you describe; it is but one switching on that?

A. We switch cars in station orders; we have to sort them for stations west on the Lake Shore road.

Q. By counsel, resuming: That is to say, the through freight, that is delivered to you from the Erie, may be in cars interspersed, mixed up with other cars upon the Erie train?

A. Yes, sir.

Q. And they have to be sorted out from the Erie train?

A. The through cars that are delivered to us by the Erie Road are delivered on a track that connects with the cross over track of the Erie and the west-bound track of the Lake Shore yard. In receiving these cars, we pull them into our yard north, or below the crossing of the

476 Erie, and in those cars there is no space to put anything but what will run through; but when I said that we switch cars to get them in station order, I mean this—we will receive eight or ten cars for Chicago, as many more for Cleveland, and some for Paynesville, some for Erie, Dunkirk, any way stations on the line, we have to couple onto this entire string of cars that we receive, and we never pull the train unless it is full; it holds thirty-three cars, if I am right; then we couple on to them
477 and pass over the Erie tracks and the contemplated crossing of the Lackawanna road; we have to cross up there, and then switch these cars out and group them in trains.

Q. So as to get the cars that are to be first dropped at the rear end of the train?

A. Those that are to be first dropped are put at the head of the train; but they are arranged in station order.

Q. And all of that switching to thus arrange those cars is done over the proposed point of intersection here,
478 is it?

A. Yes, sir; and now I will further state, relating to the transfer freight that we receive, that is delivered in the transfer-house in Erie cars.

Q. By Commissioner McAlpine: What do you mean by "transfer freight?"

A. Transferred from their cars into ours.

Q. By counsel, resuming: Where are those cars taken from and to, from which the freight is to be transferred?
479

A. Well, they are taken from the Erie cars that are placed in the house and put into our cars that we have placed in the house made to take the freight; now, those cars run right out over the Erie track; in drawing this transfer freight out we pull it out over the Erie crossing, and also the contemplated crossing; it is pulled right out of the Erie transfer house, crosses the Erie cross-

over and the contemplated crossing, and then that is 480
backed down again into the main yard.

By Com. McAlpine: That makes a grade crossing of one of your own tracks of the Erie in addition to the other?

A. Yes, sir; we really cross these crossing three times to get it out.

By counsel, resuming: So that the cars from which freight is transferred are hauled over the proposed crossing three times? 481

A. Yes, sir.

Q. And about the other direction?

A. In the other direction it all passes twice; freight in the other direction, coming east, it comes down into the yard, it is switched out, and then it passes back over this contemplated crossing to go and to be delivered to the Erie road; that all passes twice, and the transfer freight passes three times, that is, that is transferred from car to car, because that is done through the house, and 482
if you wanted to count the cars passing to be set in there, they all have to pass over these contemplated crossings; it really made a passing of the car four times to get the freight out and get it west.

Q. You keep a record of the cars delivered to and received from the Erie road there?

A. Yes, sir.

Q. Have you here an abstract from the record for the year 1880? 483

A. Yes, sir.

Q. Where did you mean when you said it required four passages?

A. I meant across the point where it was proposed to cross the Lake Shore track; I didn't count the putting in of the empty cars on the stop; if we take and set an empty car into the house, it would have to pass this track to get in; we have to pass over the contemplated cross-

484 ing to get that empty car in ; we load that empty car ;
we pull it out on the contemplated crossing, that makes
twice ; we then go down to the main yard over those
contemplated crossing and make the car into a train,
that makes three times ; a train then passes out of the
yard to go west, that makes four times.

Q. It necessarily makes four times ; and in making
up the train, to put it in its proper place, it may have to
pass twice more ?

485 A. It might be so.

Q. It frequently is so ?

A. Yes, sir ; not that it is necessarily so, but it
might be.

By Com. McAlpine: If I understand it, the in-coming
freight must pass these crossings twice ?

A. Yes, sir.

Q. In the first place they come down with a car
loaded with freight, and that is taken out and put into
486 the transfer house, and the car goes back again ?

A. Yes, sir.

Q. Then when you take it into your cars you are
obliged to send your empty cars down, receive the
freight, pass back again, and then back down into your
yard and put it in train ?

A. Yes, sir.

Q. And then moved with the train, it moves again ?

487 A. Yes, sir.

Q. So that the same car goes over four times and
the same freight goes over six times ?

A. Yes, sir.

By counsel, resuming: Now, please state the number
of eastward-bound freight cars delivered to the Erie in
1880 at this point ; state the through cars, those by
transfer separately ?

A. The through business of the Erie in 1880, the
number of through cars delivered east 32,141, and by
transfer 4,261.

Q. By transfer you mean the cars that ran to the transfer house for the purpose of transferring freight from car to car?

A. Yes, sir; to be unloaded and transferred on the west-bound through business, 30,433, that is, that the Erie gave us, and the transfer that they gave us from car to car west-bound, 6,351 cars; that makes a total of 73,186 cars both ways of the Erie road.

Q. Now, give us the total through business?

A. The total through business, other cars that passed over there not connected with the Erie, is 538,222 cars for the year 1880.

By Mr. Clark: Does that include the cars that you have just mentioned?

A. No, sir; I have made it to include just what passes over the crossing, the 73,186 is to be added to the 538,222.

By counsel, resuming: You may give us in this 538,222, the number that were eastward-bound and the number west-bound cars?

A. 268,707 cars were eastward-bound, and west-bound 269,515; in this report it simply includes the through business, it does not count the switching of cars in the yards and making up trains; it does not account for this numerous switching there back and forth across the Erie crossing and this contemplated crossing at all; that report is just for the actual number of cars that do really cross and recross in the general run of business.

Q. Now give us the number of through cars that passed in east and west?

A. In July, a year ago this month, 27,355 cars went east and 26,515 went west; in August, the next month, we had 26,045 cars east and 26,478 cars west; in October we had 24,223 cars east; west, 20,697; in January we had 23,441 west; east, 19,279; in March, east, 24,555; west, 22,315. Now that report is taken from the train-sheets showing the actual number of cars in the train. It does

492 not include our passenger cars, which amount to 37,960 both ways.

Q. By Com. Clark: Will you state whether all your freight runs on schedule time, so that you can tell the number of cars that run each day?

A. Yes, sir.

Q. That will show the number of trains that ran each day?

A. Yes, sir.

493 Q. By Mr. McAlpine: Would dividing the number of cars by forty give about the number of trains?

A. Well, about thirty-nine would give it, I think.

Q. By counsel, resuming: The track marked "dock track" upon "Exhibit No. 3" is used for what purpose?

A. That is used for receiving cars from the Erie road; the west bound track.

Q. Is that cut in two near its centre by the proposed crossing—the proposed route?

494 A. Yes, sir, that will be. It crosses about in the center of it.

Q. What is that track used for; state more fully?

A. It is used for the Lake Shore to receive their freight cars on. We call it a receiving track; that is, we receive our freight from the Erie road on that track. The Erie delivers their cars to us on that track.

Q. Does the freight remain there any length of time?

495 A. Well, at times.

Q. Is it intended for them to run their cars upon and for them to remain there until you remove them, as you have described, to put them into your train?

A. Yes, sir, the cars when delivered remain there until we receive them. They remain on that track until we receive them all.

Q. They all have to be taken out in one direction?

A. Yes, sir, all in one direction.

Q. No outlet to it at the other end?

A. No, sir.

496

Q. Where are the cars that are run out on the dock track inspected?

A. They are inspected on the dock track; the cars that the Erie give us are inspected on the dock track, and we have to let them remain there until the inspection is made by the car inspector; when everything is inspected all right, we couple on the cars and receive them, and we have to shift out all the cripples, etc., and bring back and give to the Erie as soon as we pull off 497 the track; they are generally there ready to give us more, because they have so little room there.

Q. Now, state about what proportion of the time that track marked "dock track" has been occupied by cars standing there during the last year?

A. I should say it had been occupied all the time; you scarcely ever go there but what there are cars there.

Q. About what is the number of cars that can be delivered on this dock track at one time? 498

A. If my memory is right it is about thirty-three cars, I think; Mr. Daly says it is twenty-six cars; I had the impression it was thirty-three; it is thirty-three on the east-bound track, and twenty-six on the dock track; in this statement that I made out showing the number of cars passing, counting the transfer and through, and all business together, not including the switching in the yards, because that I would have to guess at—I would 499 have to make an estimate from a guess, and that I wouldn't want to do—

Q. That is the switching over this intersection?

A. Yes, sir; and this report I figured at 611,408 cars; that would be an average of 1,675 cars per day passing over the contemplated crossing, and for every hour in the day sixty-nine cars, and for every minute in the year one and nine-sixteenths cars. Now, our chief dispatcher, who is here, gave me a report that I think he made

500 an estimate, an estimated report of all the passenger trains, and perhaps he had better give that in, the Buffalo creek business, the cars for them, and the New York and Philadelphia road figures 7,300, and that I did not add and the passenger business.

Q. There should be 7,300 freight cars added to the aggregate which you have given on account of cars delivered to the other railroads?

A. Yes, sir, and also the passenger business.

501 Q. What you have stated has alluded to freight independent of the passenger business?

A. Yes, sir.

Q. State whether or not all freight received from and delivered to the Central road has to cross these tracks of the proposed crossing?

A. Yes, sir, all freight that goes to and from the Central passes those crossings.

502 Q. Now, when freight trains stop, when the Lake Shore stop for the target, state whether or not they have to cut them in two at the Elk, Perry and Fulton street crossings; there is a target at the crossing?

A. Yes, sir.

Q. Well, you may explain about the target at this point, the object and operation of it, how it is used to control or direct the movement of trains?

503 A. Well, at all railroad crossings we have a target, and especially this; we have a target at that crossing.

Q. What is a target?

A. It is a pole set up about forty feet in the air, with a cross-bar on; that lets down and pulls up; when it is horizontal that stands all right for the Lake Shore road to pass?

By Com. Clark: Q. It is to indicate when trains may pass?

A. The Lake shore trains may pass, and when it is vertical it is then for the Erie trains to pass, and we

have two men to attend to that target, and all engineers 504 and conductors have to watch approaching crossings to see whether they have the target, and we use lights on it at night, of course.

By Com. McAlpine: Q. And when you use the expression of the train having the target you mean it has a right then to cross?

A. Yes, sir.

Q. The person in charge of the target determines the right to cross? 505

A. Yes, sir.

By counsel resuming: Q. When the Erie has the target you mean it has the right to use the crossing?

A. Yes, sir.

Q. Now, what rules govern this right and this operation of the target?

A. Well, those are rules established by the superintendent of the road.

Q. How? 506

A. Well, they are established as a code of signals.

Q. How do you determine who has the right?

A. Well, this man that attends the target has to determine.

Q. Upon what principal or rule?

A. If our train, as it is approaching, and nearer the crossing than the Erie train, and he thinks that we can get over there and get clear, he gives us the target, and the Erie man looks out and sees the target is against him, 507 and he has to stop his train and wait and we pass over; directly after we pass over the target is reversed and given to the Erie people to pass.

Q. Does he give preference to classes of trains?

A. Well, they should give preferences to passenger trains, and do.

Q. Supposing one company gets the target and before it is changed they might keep three or four trains

508 on that same road and retain the target until they had all passed?

A. They would if they were close together; yes, sir.

Q. Now, suppose a Lake Shore train was approaching when the Erie had the target, and it is compelled to stop, do you know as to whether or not they are required to, and do cut the trains at street crossings at Elk, Ferry and Fulton streets?

A. They do.

509 Q. Cut the train to leave an opening between the sections of the train to allow the unobstructed use of the highway?

A. Yes, sir; that the law of the State requires.

Q. How many streets are there that a train approaching and stopping would cross after it stopped; how many streets would it extend over, the ordinary train?

A. It would extend over Elk street, and a long train, a heavy train, I think, would reach over Fulton street
510 and down probably to Perry.

Q. Then a train made up of several sections, how would that be?

A. Well, if they were following close behind they would have to stop and cut at the crossings.

By Com. McAlpine: Q. What do you mean by the different sections?

A. If we have more cars than we can send in one train they are cut up into extras; there may be a second
511 extra or a third extra.

By counsel resuming: Q. After cutting these trains would there be any delay, and what, before starting, after you got the target?

A. Well, there would be the delay in backing up and making the couplings, you would have to couple the train up and start; after we get the target we get ready to go and couple our trains.

Q. Can you give us an idea about how long a space 512
of time it would take backing up for each of these streets
to make your coupling and connection?

A. Well, that would depend on whether the switch-
men or brakemen were successful in making their coup-
lings at once.

By Com. McAlpine: Q. Are they self-coupling cars?

A. No, sir; freight cars never are.

By counsel, resuming: Q. Well, about the average 513
time?

A. If they had to make three couplings, it would
take from ten to fifteen minutes, might not take as long
as that; if they came back a little too fast the brakeman
would not make the coupling, he might not get it in
right, he might have to shake his pin two or three times
to get it down; I have seen it in that way; if everything
came back just as we would like to have it they could
make a coupling quick and go right down to make an- 514
other.

Q. Do you think it would take ten or fifteen minutes
to make those three couplings?

A. Yes, sir; nearly that, I think.

Q. And as much more time in breaking the train?

A. Well, in breaking it is something that very often
happens, that a draw-head will pull out, or a link; in
starting they have got to put on plenty of steam and
force to get over this crossing; there is where very often 515
a link breaks, or a draw-head pulls out.

Q. You said it took ten or fifteen minutes to connect
the train when you were ready to go forward; now to
break the train, to separate the cars in the train, how
long will it take?

A. Well, it will take nearly as long; I think it would
take ten minutes, maybe less; it would take less time
than it would to couple it up.

516 Q. What do you say as to the frequency and severity of snow-storms at this point; tell us what there is about that, as affecting the detention?

A. Well, we have always been troubled in that part of the yard with snow, as we have in all parts of the yard; I don't say the snow comes down there especially because this contemplated crossing is there, but I have seen it pile up there two and three feet in the yard, right on a level.

517 Q. Mixed in with what?

A. Well, everything most.

Q. Any sand there? Just describe the nature of the embankment that the snow forms?

A. It is right on the lake where we get this sand, and everything that blows up there, so that it will blind you in a snow-storm; I have been down there when it would close my eyes right up; it is almost impossible to get through on that account; we have to put men in
518 there and shovel it out.

Q. In reference to the removal of snow and taking it off by cars along over this point of proposed crossing?

A. Well, we have to draw it off out of the yard.

Q. By Commissioner McAlpine: You spoke of the snow being two or three feet deep in that yard?

A. Yes, sir.

Q. At these crossings the ground is elevated above and fewer tracks; you don't have the snow so deep?

519 A. It is not any worse there at these crossings than it is down below, but I think it is just as bad, because we have a clear, clean sweep from the lake right through; it blows sand and snow, and everything else in there; it makes it almost impassible there in the winter; it is a very bad place; it is the worst place we have, right around the Erie transfer.

Q. Wouldn't snow fences protect you from snow and sand?

A. Well, we did try that, and we considered they 520 weren't very valuable; we took them down; we don't have snow fences up there now; we didn't last winter.

Q. By counsel, resuming: What about the necessity of keeping this snow and sand thoroughly cleaned out at this point?

A. It is very necessary to do that, from the simple reason we have so much of this switching, and in among the frogs it is necessary to keep that all cleaned out, in order to keep the cars on the track, because, if the 521 switches are choked up, everybody knows that makes bad work right off.

Q. You have to get the snow off before it becomes ice?

A. Yes, sir; we always attend to our switches first.

Q. During your experience there has it been in reference to snow blockades of one of the tracks extending from Buffalo to Hamburg so as to compel you to use 522 one track?

A. It has been so that we could not use but one track.

Q. What would be the effect of your being limited to the use of the one track in the way of detention and delay and inconvenience by reason of this crossing?

A. It would be impossible to do our work, we could not do it on one track.

Q. That is at this point?

523

A. Yes, sir.

Cross-examination, by Mr. Locke:

Q. I understand you to say that the total east-bound through freight on the Lake Shore road passing this crossing point in 1880 amounted to 538,222 cars?

A. Well, that includes the through business.

Q. That includes the Lake Shore business proper?

524 A. That includes Lake Shore business proper, not counting the Erie transfer business, nor the Buffalo Creek.

Q. Take the 538,000 cars, how much would that be, counting 365 days to the year?

A. For how many cars?

Q. Five hundred and thirty-eight thousand two hundred and twenty-two?

A. That will not get at it.

525 Q. You get at it in that way?

A. I can give you that.

Q. It would be 1,474 cars a day, would not it?

A. I have not figured it yet; it would be about 1,475.

Q. Not quite that?

A. No, sir,

Q. That would be cars per day?

A. Yes, sir.

526 Q. Calling 40 cars to a train, how many trains would that make per day passing this point? It would be just 39 trains per day, would not it?

A. About that; but there is more than that; it will average more than that.

Q. I will go a little further with you; you timed yesterday—you observed the time required for cars to pass this crossing, did you not? You stood there with us when we timed several cars?

527 A. Yes, sir.

Q. It was about two seconds to a car, you observed, did you not?

A. I did not.

Q. Assuming that each car occupied about two seconds in passing the crossing, that would make eighty seconds to the train, would it not?

A. Yes, sir; if it was two seconds.

Q. And on thirty-nine trains per day it would make 3,920 seconds, would not it, or fifty-two minutes of the

twenty-four hours? There would be fifty-two minutes 528 of the twenty-four hours when a car-wheel would be in actual contact with that crossing point?

A. I do not think that a car in passing—

Q. Is not that so?

A. Well, if you take your figures it would be so. I did not time it, and I do not desire to say anything about that.

Q. I am assuming that it takes two seconds for a car to pass the point of intersection; then on thirty-nine 529 trains of forty cars to the train it would actually occupy that point of crossing fifty-two minutes in the twenty-four hours, would it not?

A. According to your figures.

Q. Take the Erie cars, there were 73,186 transferred one way or the other last year?

A. Yes, sir.

Q. That is about two hundred cars a day, is it not, just two hundred, as near as you can fix it? 530

A. In that neighborhood.

Q. Counting 365 days in a year?

A. Yes, sir.

Q. That would be only five trains, would it, of forty cars to a train?

A. Yes.

Q. I suppose that there are times during the day down there when there is no train approaching that crossing? 531

A. There may be times when there is nothing crossing either way.

Q. Are not there a good many times during the day when there is no train approaching that crossing within a distance of 3,000 feet either way?

A. I don't think there are many?

Q. Not many?

A. Not many.

532 Q. You were there with us yesterday?

A. They were fixing the track.

Q. There was half an hour that we were there yesterday and there was no train approaching nor wanting to cross except our own engine?

Mr. Milburn: There were trains there waiting all the time.

Mr. Locke, resuming: I say there was half an hour when a train did not try to go over that crossing?

533 A. Yes, sir.

Presents papers to witness.

Q. Did you make this abstract?

A. Yes, sir.

Q. What did you make it from?

A. From books that I kept myself.

Q. Where are the books?

A. In my office.

Q. Capable of being produced here?

534 A. Well, it would be rather unhandy.

Q. Did you make the entries in the book yourself?

A. No; I have clerks who do the work.

Q. Then the entries in the book are not made by you? You have made this up from some book that somebody else keeps in your office?

A. Why, my clerks keep the record.

Q. Who is your clerk?

A. I have three or four of them.

535 Q. Where is your office?

A. On Hamburgh street.

Q. Where do they get their information from?

A. We have reporters outside who report to us every day.

Q. The reporter reports to the clerk and the clerk enters it in the book; and whether the reporter reported correctly or the clerk entered it correctly you don't know?

A. We have the conductor's report of every car that runs, and that shows the initial and number of the car. We have the train men checking against this conductor. 536

Q. Those men are all here, are they, all accessible?

A. I would like to explain this.

A. I don't care for the explanation. I have not asked you about the course of business at all. Is the Erie business growing, the Exchange business?

A. Yes sir; I think it is.

Q. They are putting in a new grade crossing there? 537

A. They are.

Q. Is that with the consent of the Lake Shore?

A. The Lake Shore don't have anything to do with it.

Q. They cannot help themselves?

A. If they want to put in half a dozen tracks they will do it.

Q. The Erie will cross there as much as they see fit? The more tracks they put in and the more business they do the more delays are occasioned to the Lake Shore road? 538

A. Well, the more business there is done there the worse it is for us.

Q. Still they are putting in a new track there to-day?

A. They have a right to do that.

Q. Do you have anything to do with the location of the tracks, telling where a track shall be put in, or anything of that sort? 539

A. No, sir.

Q. That is not within your jurisdiction?

A. No, sir.

Q. I suppose you have had enough experience in railroads to know that tracks can be shifted around for a certain amount of money?

A. Yes, sir.

Q. The methods of business in the yard?

540 A. Yes, sir.

Q. The connections in the yard can be shifted around and modified by the expenditure of some certain amount of money?

A. Yes, sir; always; providing both parties agree to it.

Q. You spoke of the times that cars crossed the Lake Shore point there where the proposed Lackawanna crossing is. Do you mean to say that every car in every
541 freight train that you bring down from Dunkirk to Buffalo and run into your yard is pulled out again and pulled as far back as this crossing point?

A. I would not say that every train is, but nearly all of them are.

Q. Can you say what proportion of the cars that come down and go into your yard are again hauled out for the purpose of making up that distribution, what proportion of the cars?

542 A. Well, that is a question that I cannot answer precisely.

Q. Will you swear that ten per cent of them are?

A. Yes, sir.

Q. Are pulled out again beyond this point?

A. Yes, sir; I will swear that a great many more than that are; I should say seventy-five per cent.

Q. You have switches all along down your yard, have you not?

543 A. Yes, sir.

Q. How far is it from the first switch north of the Erie crossing to the point of crossing of the Lackawanna road?

A. It is impossible to do your switching down in here; you cannot do your switching here because you cannot get on the other track; you have got to come above these switches.

Q. How far is switch No. 4 from the point of cross-
ing of the Lackawanna road? 544

A. That would be about 565 feet.

Q. After your train is half distributed, or two-thirds distributed, if you wanted to put cars in on switch No. 4, you would not have to run back?

A. If you have got your train here you have got to pull it back by the switches; you have got to come up here with your train.

Q. What proportion of your east-bound freight is delivered to the New York Central road? 545

By a commissioner: Do you mean freight or cars?

Mr. Locke: Cars, I mean.

A. Well, perhaps six-tenths of it.

Q. What proportion to the Erie?

A. I should say two-tenths, or a little more.

Q. You delivered to the Erie 32,000 cars, did you not? 546

A. Yes, sir; I am only estimating this, you know; I am trying to answer your question.

Q. Where do the other two-tenths go?

A. That would be town freight.

Q. Where do you hit the Buffalo Creek?

A. We hit them at the junction.

Q. On the south side of the Buffalo River?

A. Yes, sir; where we went the other day; where the Buffalo Creek road crosses our track. 547

Q. Do you arrange your trains at any point in the west with a view to the distribution of cars in Buffalo?

A. We do when we have time to do it.

Q. So that a good many trains come here with Erie freight at the rear part of the train, don't they?

A. Very few.

Q. Some?

A. Some do.

548 Q. Would there be any trouble in arranging it so that your Erie cars should be put in the rear of the train?

A. We would have to switch them out.

Q. Suppose you have Red Line cars come in; a whole train of Red Line cars, that freight goes by the New York Central?

A. Yes, sir.

Q. Is there any trouble in running that into one of
549 these switches and hitching on the front end and drawing it right over on your transfer tracks?

A. If we had a full train we could get rid of them.

Q. You have a great many full trains, don't you?

A. Not always, we do some.

Q. It is not an infrequent thing for you to have full trains, is it, of Red Line cars?

A. No, we do not have full trains of Red Line cars very often; it is a very infrequent thing if we do.

550 Q. Is it not a very common thing for you to have full trains of freight to points east by the way of that road?

A. It is a very uncommon thing.

Q. Is it a seldom thing for you to have ten cars all in a bunch by the New York Central?

A. We have them often.

Q. Twenty cars?

A. Sometimes; not often.

551 Q. You have often ten cars?

A. Often have ten or eleven or twelve cars.

Q. With those ten or eleven or twelve cars, don't it happen in the condition of your tracks here, ten times out of eleven that those cars do not have to be pulled back beyond this Lackawanna crossing?

A. They most always have to be pulled over this contemplated crossing.

Q. How long is your yard here?

A. Its tracks were made to hold a good sized train. 552

Q. Your tracks are 1,500 feet long there, these tracks in the yard?

A. No, I don't think they are.

Q. How long is your yard?

A. Well, I don't know that I can tell you that; I never measured it, I presume Mr. Hawks can answer that question.

Q. By a commissioner: Are those tracks long enough to take in a whole train? 553

A. The track is long enough to take in a whole train, that is what it is designed for, that lets the train in, and then we come up on the other track with the switch-engine, and then we have to throw it over this crossing and switch on the other track.

Q. Is there any practical difficulty in connecting these different tracks in the yard with switches in the yard?

A. Well, they are connected now at the lower end of the yard. 554

Q. Can't they be connected intermediate?

A. No.

Q. Between the terminal points?

A. No, sir; we can't do it and do our work.

Q. Why?

A. We would be running the cars on one track into the cars onto another track.

Q. You would not if your switches were taken care of? 555

A. We would have to place switchmen all through the yard and employ ten or twelve switchmen to put in this yard to attend these cross-switches.

Q. So that all the tracks in your yard have got to be independent tracks you say, without any connection with any other track, for fear that a switchman will make a blunder?

A. I have not said that; but necessarily in a yard

556 like this we want considerable track to put our train on ;
of course we have switches at both ends to get out and
in ; I don't see how you could let two trains in on one
track that was made to hold one train ; how you could
get two trains on one track.

Q. Take track number six, right along by track num-
ber seven ; I suppose that if number seven did not happen
to be occupied at all and you wanted to cut into a train
and cut out a car which stood on track number six, there
557 would not be any particular danger of running it into
number seven ?

A. We are constantly using those tracks ; we are
coming through from East Buffalo, and we run up here
and strike the main track.

Q. Do you have to break into every train that starts
from Buffalo on account of the streets that you pass ?

A. Well, if we stop the train we do.

Q. You have to stop every train, don't you ?

558 A. If there is any detention at the Erie cross-over,
or any obstruction on the track that causes us to stop
outside of the regular stop we have to make, then we cut
the train.

Q. Don't you know you are authorized by the ordi-
nance to obstruct any of these streets with your trains,
provided the obstruction does not extend over a space of
five minutes ?

559 A. If it extends over a space of five minutes we have
to cut the crossing.

Q. If you don't have to wait over five minutes you
do not have to cut your train in two ?

A. If we have to wait over two minutes we cut our
train.

Q. You don't have to do it ?

A. We must not block the crossing over five min-
utes.

Q. That is your notice that is stuck on your sign-board, to engineers? 560

A. Yes, sir.

Q. The Abbott road is one of the main thoroughfares into the city, is it not?

A. Elk street is, and the Abbott road.

Q. Would there be any trouble in putting some more transfer tracks on the north side of the transfer house?

A. There would not be any trouble if we could make connection with the Erie. 561

Q. That could readily be done with the acquisition of a very little land on the other side of the transfer house, couldn't it?

A. It would have to cross these main tracks on the Erie.

Q. That would be a very serious matter?

A. Yes, sir; there is no outlet at this end; it is easy enough to put the tracks in; here is the Abbott road, you would have to cross that, and here is Elk street running through here; this is all built up by property owners; they come up clear to the transfer house. 562

Q. Cottages?

A. Yes, sir.

By Mr. Milburn: Q. The blank, triangular place on the map between the Abbott road and Elk street is all filled up by stores and houses?

A. Yes, sir.

Counsel, resuming: Q. How valuable is the most valuable building on that triangle that you can mention; is there a building there worth seven hundred dollars? 563

A. Yes, sir.

Q. Whose building is it?

A. Well, there is a building on the corner, I don't know who owns it; it stands on the Abbott road; there is a building there that I should say from what little ex-

564 perience I have had in building, never cost less than fifteen hundred dollars to build it.

Q. What building is it?

A. A two-story place, a store with a wing attached.

Q. Where does it front?

A. On the Abbott road.

Q. How far back does it extend from the Abbott road?

A. I should say it runs back thirty or forty or fifty 565 feet; then here is a place here the gentleman asks ten thousand dollars for that property.

Q. You would not want to go three hundred feet away in order to connect there?

A. That man might make it unpleasant for you.

Q. Do your present transfer tracks connect with the Erie road at all?

A. They connect with the Erie tracks; yes, sir.

Q. Aren't they all stub tracks, stub toes; there are 566 two that are?

A. Those are the transfer tracks.

Q. They don't connect there?

A. They don't connect there.

Q. What track is it that you stand the Erie cars upon, which are delivered to you, until you get twenty-three, and then pull them out?

A. On the dock track.

Q. Would there be any difficulty in putting a track 567 on the north side of the transfer house upon which to stand those cars as you got ready to get hold of them?

A. Well, yes, there would be difficulty in doing that, because we would have to cross our own main tracks, and we would have also to cross the Erie tracks.

Q. They do not cross your main tracks, now?

A. No, sir, they do not.

Q. How do they get over?

A. The Erie takes them over on their tracks.

Q. They cross your main track? 568

A. No, sir; we bring them down west of our main track, and make them in trains on the west-bound track.

Q. Last winter was a very severe winter, wasn't it?

A. Yes, sir.

Q. One of the severest you have ever had?

A. I think I experienced the cold more last winter than ever before in my life.

Q. There was a great deal of snow last winter?

A. Yes, sir; quite a quantity of it. 569

Q. Did the sand blow in from the lake shore?

A. It came in from the lake side; I couldn't say from what place.

Q. Do you see any perceptible elevations in your grade from that place by reason of the deposit of sand blown in there from the Hamburg turnpike?

A. Well, that I don't know—that I noticed enough to give you an answer.

Q. The prevailing winds here are all from the west? 570

A. West and northwest.

Q. This point where we propose to cross, where the Lackawanna proposes to cross the Lake Shore is about eight feet above the grade of the land, is it not; that is, the original surface?

A. That I don't know that I can tell you exactly.

Q. It is considerably elevated?

A. It is elevated.

Q. There are a large number of houses, the Wadsworth Iron Works furnaces and the houses connected with them are immediately to the west of this point of crossing, are they not? 571

A. Yes, they are west.

Q. Answer the question directly?

A. Yes, sir.

Q. Didn't those houses shield your track at this point at all?

572 A. I don't think they do to help it any.

Q. You think that the elevation of your tracks above the surface of the ground does not tend to keep that point of the track clear from snow?

A. No, I don't think it does.

Q. Your trouble this winter in regard to snow was away down in those multiplied tracks in your yard, wasn't it?

A. No, sir; not all of it.

573 Q. Will you testify that you have ever drawn away on cars any snow from that point, on your main line?

A. Yes, sir.

Q. Instead of shoveling it off from the bank?

A. We did it last winter.

Q. Instead of shoveling it off the bank?

A. We shoveled off from the banks perhaps until it was all filled up, it drifted right in there and you couldn't tell where the bank was; it would drift in there so that
574 it filled everything right up; I have seen it so that it was level there.

Q. What became of those houses; were they visible to the naked eye at all?

A. They used to dig out in front of them.

Q. How many times have you seen that?

A. I noticed that there last winter, and I know we had snow clear up here; I had a hundred and fifty men.

575 Q. You had a hundred and fifty men to take snow away from this crossing?

A. From that point and other points; we worked clear up to the Buffalo Creek.

Q. Shoveling snow clear up to the river?

A. Yes, sir.

Q. Did you have to shovel any snow away in Hamburgh?

A. Yes, we went up there and shoveled snow in Hamburgh.

Q. All along your railroad? 576

A. At the points along the road, there were certain points where it drifted in more.

Q. Is there any more snow at the proposed crossing of the Lackawanna road than at the proposed altered point of crossing?

A. Well, I don't know that there is.

Q. It is about the same?

A. Yes, sir.

Q. One of the most important tracks you have there, 577 as I understand you, is the extreme westerly track in connection with this transfer business, that new track that you are now putting in, is it not?

A. Well, we are putting that in.

Q. Is it not one of your most important tracks?

A. That is an important track to get to the transfer, it is necessary to have a track there.

Q. When did you commence putting that in, do you 578 know?

A. No, I don't know just the day.

Q. Is it over ten days ago you commenced—I ask you if you can tell?

A. I don't know just the day, I know it is some days ago our men commenced putting in those tracks; I was not there when they commenced it.

Q. Were you there when they commenced putting in this crossing of the Erie? 579

A. No, sir, I was not; we left that to the track men in the yard.

Re-direct examination, by Mr. Greene :

Q. In Mr. Locke's hypothetical question, that it took a car so many seconds to pass a given point, he asked you if all those cars could not pass a given point (all that pass in a day) in fifty two minutes; carry that if you will a little farther; if his premises are correct the

580 Lake Shore business could do about twenty or twenty-five times as much business as it is doing now on those same tracks?

A. Yes, sir.

Q. You do not assent to the correctness of the basis upon which he asks your opinion?

A. I said according to his figures.

Q. The books that are kept are under your supervision and charge?

581 A. Yes, sir.

Q. You daily have access to them and examine them?

A. Yes, sir.

Q. The book is record of the movement of cars, arrival and departure of cars?

A. Yes, sir.

Q. You were giving us the system or method in which those facts are arrived at and the record made; just proceed and tell us briefly what you were about to
582 do when stopped by Mr. Locke?

A. Well, I would say in getting at the figures, or in getting the numbers of all cars, of course we have a system the same as anybody else does in doing their work.

Q. Tell what it is briefly?

A. We have in our yard car reporters with books and pencils to take the number and initial of every car, noting the number of the train, the conductor's name, and the initial of every car in the train that arrives, and
583 the time that the train did arrive, and just the same occurs with any trains that are made up and sent out of the yards to go west; those books are returned in the office every morning; we also in the meantime have all the freight conductors that arrive in Buffalo, bring a report of their trains, what they call a conductor's report, that states the number of the cars, the initial of the car, where taken on, and left at Buffalo, or if they have any other cars in their train, if they are left anywhere else on

the line it shows that where the cars were left on the 584 route; it shows also those that were left in Buffalo; I have my clerks take those reports and books and compare them; we do that for accuracy, not to make any mistake in the numbers; we have to figure the mileage from the car numbers, and they check the conductor's report, if they agree we suppose the work is right, we then go to work and copy the trains on sheets about two feet long, and about a foot and a half in width, these we call regular train sheets for making out a general report; 585 we go to work and keep those trains, conductor's names at such a section.

Q. Don't go so much into detail?

A. We make out daily reports of that kind every day, east and west-bound, and then we have a set of books in which we keep an account of all cars delivered to our connections, the Central and Erie, and wherever cars go they are entered on these books as delivered to 586 certain points, and also received.

Q. Those are kept as records of the company?

A. Yes, sir.

Q. It is from those records which have been under your supervision that you have made this abstract and have obtained the figures that you have testified to here?

A. Yes, sir.

Mr. Greene offered in evidence the detailed statement referred to, showing the eastward and westward-bound 587 cars, during each month in the year 1880. The one at the top of the sheet shows the arrival and departure during that year, and the one at the bottom shows those received from and delivered to the Erie business, and transfer.

Objected to by Mr. Locke.

Paper marked "Petitioner's Exhibit 5."

Q. In that connection the statements here, month by month, are truly stated from the records that are in the

588 office, and that have been made and kept as you have described yesterday?

Mr. Greene: I offer that as part of his testimony, with the same effect as though I had asked him such a month, so many cars, etc.

So received in evidence.

Q. Can you tell us about the proportion of the through cars that cross this point of intersection more than twice as they go down into the yard, and as they
589 are switched out, what proportion of them would pass and re-pass this proposed crossing more than twice, that is, more than when they run into the yard and when they run out?

A. That is in the switching.

Q. Yes, sir, as I understand you they run down into the yard, and more or less of them are brought out here and switched across this point; what proportion of those cars, the through cars, pass over this proposed crossing
590 more than twice?

A. I should say about one-half.

Q. And they pass over how many times?

A. In switching the trains they come up and one car might pass over there two or three times before the engine will go.

Q. Would the average be, in your judgement, half of the number of cars passing and re-passing that is going over that point twice, in addition to the time when
591 it was received and when it was discharged?

A. I think it would; I think nearly half of them are switched over the crossing.

Q. So that upon the whole, in your judgment, about one-half of the total number of through cars would pass over this point four times?

A. Yes, sir, that would make four times.

Q. Counsel has spent some time in asking you about a series of switches in the yard between the tracks. Is

that practicable, in your judgment, the various switches 592
so as to do the swithing in the yard?

A. No, sir, we could not do our work to have switches
run from one track to the other; it would be impossible
to do it.

Q. Was ever any such thing as that conceived of or
executed; was ever such a plan carried into operation to
your knowledge?

A. No, sir, not to my knowledge; it has not been
since I was there? 593

Q. You were asked about taking the Lake Shore
tracks that now pass on the southeasterly side of the
transfer house—you were asked as to the feasibility of
changing those tracks so that they would run down on
the north side. In addition to the objection that you
have given to there being no outlet across the Abbott
road, is it not a fact that they would necessarily cross the
main tracks of the Erie?

A. They would cross the main tracks of the Erie and 594
also our main tracks.

Q. Those tracks, to get to that point, would necessa-
rily cross the main tracks of the Erie road?

A. Yes, sir.

Q. Which is now avoided here?

A. Yes, sir.

Q. So that you make your through connection with
the Erie without crossing the main tracks of the Erie? 595

A. Yes, sir.

Q. But in the plan as proposed by him, the main
through business of your road in connection with the
Erie would have to cross the tracks of the Erie, and pass
down and intersect and connect with them below?

A. Yes, sir.

Q. Which is avoided at the present time?

A. Yes, sir.

Q. At this point of intersection the proposed location

596 is the track occupied more or less by the passage of trains to and from their destination, or by the switching movement of cars to and from the transfer house, and to and from the yards independent of the regular trains?

A. I think it is used as much in the switching as it is in the business of letting out through trains; I think just about one-half, as I said in answer to your question before; I think it is used full as much to do the switching.

597 Q. That is, as many cars are moved?

A. Yes, sir.

Q. Is there not a much greater length of time used in switching?

A. It is greater in switching.

Q. There is a greater length of time used in switching and transferring than in the passage of trains?

A. That must be so, because in transferring cars we have to switch back and forth all the time.

598 Q. Take it now, about what proportion of the time is actually occupied about those switches by the Lake Shore and Erie, put it all together, during the day—about what proportion of the time?

A. Why, at the least calculation one-third of the time.

Q. That is, either one or the other has the track, and is using a track at the point of the proposed crossing?

599 A. Two-thirds of the time, yes, sir.

Re-cross examination, by Mr. Locke:

Q. Your passenger trains have the right of way over the freight trains?

A. Yes, sir.

Q. You run in connection with the New York Central?

A. Yes, sir.

Q. If the New York Central train is late twenty 600 minutes your passenger trains usually wait, don't they?

A. Yes, sir.

Q. To make the connection?

A. Yes, sir.

Q. And start out late?

A. Yes, sir.

Q. That has been a very frequent occurrence in the last year?

A. Well, last winter it was, but now they run right 601 on time.

Q. I suppose that nearly all the difficulties that you have mentioned in connection with your proposed crossing would still attach to this matter if the point of crossing were changed to the altered line, and then made a grade across it; whether the grade crossing is at this or that point is not a matter of serious difference, is it?

A. Well, it would help our business more if we could 602 get you off here further.

Q. Up near the bridge?

A. Yes, sir; and it would be better if we did not have you at all; that is, we are bothered enough now to do our work, and if we get many more crossings there we shall have to close up.

Q. Is it not better for you, considering that all trains have to stop at this crossing, that our point of crossing should be as far away from the bridge as possible if we 603 are going to build a grade crossing?

A. No, I will tell you.

Q. You heard what Mr. Hawks said on that subject yesterday, did you not?

A. I heard some of it.

Q. All your through business would cross that point both ways?

A. Yes, sir.

604 Q. A good many of your long trains when you are making them up would also have to come by that point?

A. Yes, sir; all I can see where we would have the advantage if we had you here, it would give us more room for the transfer.

Q. It would be the simple business of the Erie road?

A. No, sir; not alone. It would help us in switching our freight down here.

Q. Would it be fifty per cent. easier for the Lake
605 Shore road to operate its tracks if we had a grade crossing at the point where they propose to have us cross than if we had our grade-crossing at the point where we propose to cross?

A. I will not say, I can not say as to the per cent.

Q. Would it make three per cent. difference?

A. I will say the further we can get you out of the way the better; I would rather it would rest at that; and as to the help that it will render us, that I would
606 rather you would ask the engineer about, because that is in his department.

Q. Every train that comes to this point has to cross, or has to stop now, does it not on your road?

A. We stop now before crossing.

Q. Every train has to stop before it reaches the Lackawanna crossing, don't it, on one side or on the other?

A. Yes, I think you are going to cross about where
607 we stop on the south of the —

Q. You have seen the exact point?

A. Yes, sir; I saw it.

Q. Don't you know that every train already stops on one side or the other of that point?

A. I understand we stop before we cross the Erie crossing.

Q. You stop where you switch the tracks?

A. Yes, sir; about that.

Q. By Com. Clark : Do I understand you to say in 608
doing your business, in switching, you pass the cars back
to the point of alteration, of the altered line?

A. Well, I don't know as I understand you.

Q. By Com. Clark : You say you pass your cars over
this point of the Lackawanna line?

A. Yes, sir.

Q. In switching?

A. Yes, sir.

Q. Do you also pass them over the proposed line? 609

A. Well, I think they would come up nearly to this;
I presume we could do considerable switching; it would
depend on the number; I presume we could do a good
deal of switching and not come up to the proposed line
unless we had a very long train.

Re-cross examination, by Mr. Locke :

Q. You could not do very much switching and stop
short of the Lackawanna crossing? 610

A. No, sir.

Q. But that two hundred feet, which would be five
cars, would give you about all the room that you
wanted?

A. Well, not all we wanted, I have not said that.

TRACY W. NILES, sworn and examined by Mr. McMil-
lan, testified as follows :

611

Q. You reside in Buffalo, Mr. Niles?

A. Yes, sir.

Q. And have for how many years?

A. More or less all my life; I have been here for the
last eight years steady.

Q. You are one of the train dispatchers for the peti-
tioner, The Lake Shore and Michigan Southern Railway
Company?

A. Yes, sir, one of them.

612 Q. How long have you been engaged in that capacity?

A. For the last eight years.

Q. Your office is where?

A. In the Central depot on Exchange street.

Q. What portion of the road is under your control?

A. As far as dispatching of trains is concerned, the portion of the road between East Buffalo and Erie.

613 Q. Your business naturally pertains to the traffic upon the road?

A. Yes, sir.

Q. You know nothing about the engineering difficulties in this case.

A. No, sir.

614 Q. You may state the number of regular trains that come into and leave the city of Buffalo on the Lake Shore road during each twenty-four hours, as it is now being run and operated, by the time table?

A. The number of trains that are being run in and out of the city over the Lake Shore according to the present time table is fifty-two; thirteen of them are passenger trains and the balance, thirty-nine, are freight trains.

Q. Are each of those trains designated by a number?

A. Yes, sir; designated by a number.

615 Q. Under those numbers are the trains divided into sections?

A. Yes, sir; it very often occurs that on what is called one run, we will have three trains on that run designated as sections.

Q. Explain so that the commissioners will understand it fully.

A. The section of a run is one train consisting of engines and caboose and thirty or forty cars to make up the train, that is considered a section, say of No. 40. It would be called the first section number forty, and carry-

ing red signals would indicate that there were two sec- 616
tions numbered forty on that one run, and if there were
three sections, the second section would also carry red
signals, that would designate that there were three trains,
three sections of No. 40 in that run. All the trains
that are run on one run are called sections, first, second
and third section.

Q. So that when you say there are fifty-two trains,
you mean that there are that number on the time-card?

A. Yes, sir.

617

Q. Sometimes you have more than that; where
there are three sections in a train-number there would
be an increase in the number of trains?

A. Yes, sir; at the present time we are running from
fifty-seven to sixty-two trains a day.

Q. That includes these various sections?

A. Yes, sir; the only way that we could run more
than fifty-two would be to run more than one section on
a run.

618 .

Q. Mr. Locke: You call them extras?

A. They are not extras; the second section has the
same right as the first section; it is not a special.

Counsel resuming:

Q. Is it a part of your duty, as train-dispatcher on
the lines of the road between here and Erie, to keep an
accurate data of the position that each of these trains are
in during the twenty-four hours, until they leave your
division?

619

A. Not for the twenty-four hours, but for the eight
hours when I am on duty; there are three dispatchers,
and each one keeps a full record for the time that he is
on duty, and that record is open to the inspection of either
one of the three dispatchers.

Q. While you are on duty it is a part of your duty
to keep a record of the position and point that these
trains are at all along the line?

620 A. Yes, sir.

Q. You can tell where each one of those trains is that are in your division?

A. Yes, sir.

Q. Both freight and passenger?

A. Both freight and passenger; when a train leaves Buffalo or Erie there is a telegraphic report sent to my office, giving the number of the engine, the name of the conductor, and the number of cars in the train, the
621 time the train left Erie or Buffalo, and as that train passes each succeeding station, the operator at that station sends a report to the dispatcher's office, giving the time that the train passed there. That train-sheet as we call it, we are enabled to look at at any time and see at once the position of any train on the road.

Q. It is also a part of your duty, is it not, to regulate the running of those trains?

A. The running of the trains is properly regulated
622 by the time-table when they are on time; when they get off from the regular time it is my duty to keep them running.

Q. To keep them in position so that they will not collide?

A. To keep them a proper distance apart, and move them ahead of passenger trains if passenger trains are late.

Q. That is, if a train is delayed at the Erie crossing
623 you regulate the trains that leave after that train, and the trains coming in from the other direction, from the west?

A. At that point the trains coming in and going out would be properly regulated by the yardmaster.

Q. If they left there late it would disarrange the time table, and then they would be under your direction, wouldn't they?

A. Yes, sir.

Q. By Mr. Locke: Unless they made it up before 624 they reached the next station?

A. If a train were coming east that would be the end of the division.

Mr. McMillan resuming: Q. Have you prepared from your time-card a statement showing the time when the trains, belonging to the Lake Shore Company, arrive at and depart from the point where they stop nearest this crossing?

A. Yes, sir. 625

Q. And is that prepared from the train-sheet or from the time-card from which they are run?

A. At the present; yes, sir.

Q. The numbers in pencil indicate the time that elapses between each train?

A. Yes, sir.

Q. The letter "D" indicates departing and "A" the arrival of trains?

A. Yes, sir; the arrival of trains refers to east-bound 626 trains, and the departing to the west-bound trains, and I have also marked the passenger trains with a little star; in all cases the odd numbers are trains going west, and even numbers are trains moving east.

Paper which was marked by the stenographer No. "6" for identification, was as follows:

STATEMENT SHOWING THE REGULAR NUMBER OF TRAINS, 627
PASSENGER AND FREIGHT, ARRIVING AND DEPARTING
AT BUFFALO ON THE L. S., & M. S. RY., ACCORDING
TO THE TIME-TABLE NOW IN USE UPON THAT RAILROAD.

Departing,*	No. 1,	12.35 A. M.
Departing,	No. 23,	1.20
Arriving,	No. 60,	1.50
Departing,	No. 25,	2.20
Arriving,	No. 42,	3.00
Arriving,	No. 22,	3.15

628	Departing,	No. 27,	3.20 A. M.
	Arriving,*	No. 4,	3.45
	Arriving,	No. 24,	4.35
	Departing,	No. 51,	4.35
	Arriving,	No. 26,	5.40
	Departing,	No. 73,	5.45
	Arriving,	No. 28,	6.20
	Departing,*	No. 3,	6.55
629	Departing,	No. 29,	7.10
	Arriving,*	No. 20,	7.15
	Departing,	No. 53,	7.40
	Arriving,	No. 64,	8.15
	Departing,*	No. 21,	8.20
	Departing,*	No. 15,	9.22
	Departing,	No. 33,	9.32
	Arriving,*	No. 2,	9.45
630	Departing,	No. 35,	10.15
	Arriving,	No. 32,	10.25
	Arriving,	No. 58,	10.50
	Departing,	No. 37,	11.20
	Arriving,	No. 68,	11.30
	Departing,*	No. 5,	12.55 P. M.
	Arriving,*	No. 6,	1.00
	Departing,	No. 39,	1.10
631	Arriving,	No. 74,	1.40
	Arriving,	No. 34,	2.00
	Arriving,	No. 30,	2.30
	Departing,	No. 43,	2.50
	Arriving,	No. 56,	3.50
	Departing,*	No. 9,	4.05
	Departing,	No. 41,	4.20
	Departing,	No. 57,	4.50
	Arriving,	No. 66,	5.10
	Arriving,	No. 62,	5.50
	Departing,	No. 59,	5.50
	Departing,	No. 65,	6.10

Arriving,	No. 40,	6.25 P. M.	632
Arriving,*	No. 10,	6.45	
Departing,	No. 61,	7.10	
Arriving,*	No. 8,	7.50	
Departing,*	No. 7,	8.30	
Arriving,	No. 36,	8.35	633
Departing,	No. 31,	9.30	
Arriving,	No. 54,	10.00	
Departing,	No. 63,	10.25	
Arriving,	No. 38,	11.25	
Odd numbers, west.			

Trains departing are west-bound trains.

Trains arriving are east-bound trains.

Even numbers, east; passenger trains marked *

Two trains on run No. 8, but one shown on card.

Q. In stormy weather how do delays of from twenty to thirty minutes at the Erie crossing affect the running of trains in your division?

A. In foggy weather, during the winter time, or in snowy weather, a delay at that point causes delay at all the points on the road, and of trains coming east from Erie. It would also delay all the west-bound trains made up in the yard ready to leave, in either the Buffalo yard or East Buffalo yard, or on the road between East Buffalo and Buffalo, for the reason that in stormy weather or foggy weather on the Lake Shore road all trains are blocked; by blocking I mean that they are kept one telegraph station apart. Hamburg is the first telegraph stations west of Buffalo, and when a train passes there the operator at Hamburg puts out a red flag and holds all other east-bound trains until the train that has passed there passes Buffalo, so that in-coming trains where delayed at that crossing would necessarily delay all trains coming east at that time until it got clear.

By Com. Clark: Q. Do they go on the same track?

A. East-bound trains do.

636 Q. West-bound trains, too?

A. No; they don't go on the same track, but at that point there is a single track.

Q. At Hamburg?

A. No, sir; at this Erie crossing. We do not allow two trains in one block at the same time; a block would be between two telegraph stations, Buffalo and Hamburg.

Q. Does that apply to passenger trains as well as
637 freight?

A. It applies to passenger trains at all times, whether stormy or pleasant weather.

Q. Don't you send out a freight train at Buffalo until the train has passed Hamburg?

A. Not if the preceding train is a passenger train we do not, nor do we allow one passenger train to follow another passenger until it has passed the next station, nor a freight to follow a passenger until it has passed the
638 next station, so that if there was a passenger train delayed at that Erie crossing it would delay all east-bound freight trains coming east, whether stormy or foggy weather.

Q. Does that apply to these various sections to which you have alluded?

A. Yes, sir.

By Mr. McMillan, resuming: Q. The nearest telegraph station to this Erie crossing is what?

A. The nearest telegraph station, I am not positive
639 whether the telegraph station is the nearest or the one at the Buffalo Creek crossing.

Q. You have two, one on each side?

A. One on each side; trains are not given any time on the time-table at the round-house, and they are at the Buffalo Creek crossing.

Q. Is there not one at the transfer-house?

A. We have no telegraph office there at the present

time, but we have a telephone office there that is connected with our office at the depot. 640

Presents paper to witness.

Q. What do you make the number of passenger cars. Give it for the separate months?

A. The passenger cars by this report for the month of April, 2,608.

Q. That is both ways?

A. Yes, sir; for the month of May, 2,776; June, 2,727. 641

Q. You may state as near as you can about what proportion of the time during the fall, spring and winter months the stormy weather and fogs occasion delays on the road?

A. Well, it is not for any continuous length of time; it would be for two or three to ten days at a time.

Q. I say tell us about what proportion of the time during those months you are affected by delays from fogs and storms and snow? 642

A. It is according to the weather at that time of the year; I should think for the fall and winter we are troubled so that we have to use a positive block on our roads, fully one-half of the time.

Q. How in the spring?

A. In the spring we are not troubled, but very little, occasionally a foggy day.

Cross examination, by Mr. Locke:

643

Q. How long have you been on the Lake Shore road?

A. Sixteen years.

Q. Have these same rules applied all the time?

A. No, sir.

Q. How long have they been in force in regard to preventing freight trains from following passenger trains until they pass the next station?

A. Two and one-half years.

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business of the year? How would to-day compare? 648

A. Very favorably.

Q. That is, you are doing as much to-day as the average business of any day in the year?

A. About the average.

Q. You say the business of to-day compares very favorably with the average business of the twelve months?

A. I suppose so; yes, sir.

Q. I suppose the amount of switching depends to a 649 large extent upon that amount of freight you are running?

A. Sometimes.

Q. It would naturally, wouldn't it, all other things being equal. The amount of the switching would increase with the amount of cars you were running?

A. That would be a natural consequence.

Q. No report is made to you, as I understand you, until a train gets to Hamburg, after it leaves Buffalo? 650

A. Not after it leaves Buffalo Creek crossing.

Q. Is there a report made to you from the round-house?

A. No, sir.

Q. Is there any report made to you until the train leaves the Buffalo Creek crossing?

A. Not unless there is some special delay of the train.

Q. What would you call a special delay of the train, 651 five or ten minutes?

A. No.

Q. You would not call that a special delay?

A. No, sir.

Q. Twenty-five minutes?

A. Yes, sir.

Q. Anything under twenty minutes would not be a special delay?

A. It might not be to freight trains; to passenger

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Q. That is what you are there for, is it not? 656

A. One thing.

Q. Would a delay at the Erie crossing of a freight train of five minutes discommode the passenger trains coming east at Brocton?

A. At certain times of the day and certain days of the week it would.

Q. How often would the delay of a freight train five minutes at the Erie crossing interfere with the passenger train at Brocton coming east? 657

A. Not very frequently, excepting in the winter months.

Q. You say you do not call the delay to a freight train of anything less than twenty minutes a special delay?

A. Not unless it is the cause of laying out and detaining a passenger train.

Q. You have siding upon your road all the way up, have you not? 658

A. Yes, sir; sometimes we have more trains than we can get in on the sidings.

Q. That don't very often occur?

A. Yes, sir.

Q. It does occur often?

A. Yes, sir.

Q. As far as you can you economize those sidings?

A. Yes, sir. 659

Q. And every train, if it cannot go as fast as it ought to go, it goes upon a siding and goes when it can get through?

A. Yes, sir.

Q. You cannot tell from your office whether a train is delayed at the Erie crossing or not, can you, until it gets somewhere else.

A. Not unless they are delayed there quite a length of time, and they tell us by the telephone.

Q. How often have you been apprised of delays at

660 the Erie crossing, taking it in the last thirty days? You have been on duty eight hours of every day for the last thirty days?

A. Yes, sir.

Q. How many reports have you had of delays at the Erie crossing during those thirty days by telephone?

A. I don't think I have had any.

Re-direct examination :

661 Q. You don't get your reports from the passenger office, but as I understand you, you get them from the creek?

A. Yes, sir.

Q. That is the place that you get the report of the time of leaving and the information of their detention?

A. Yes, sir.

Q. Has the passenger business increased within the past year or two? Are there a number of trains put on?

662 A. Yes, sir; it is increasing monthly; we have been obliged to put on an extra train in the last two weeks.

Q. It has been so increasing for the past two years?

A. Yes, sir; steadily.

Re-cross examination :

Q. You do not mean you have put on a new train every two weeks?

A. I did not mean so; no, sir.

663 Q. Your business, I suppose, increases and decreases with the general tide of the business of the country, don't it? In periods of depression you do not have so much?

A. It depends something on what the current rate is.

Q. When freights are low you have a good deal?

A. Yes, sir; and when passenger rates are low we have a good deal.

Q. If they are high you do not have so much?

A. Not at certain seasons of the year.

Q. Have you taken off a freight train?

A. No; we have added some freight trains. 664

Q. The same number of trains run east and west on your road?

A. They do, through the year.

Q. Otherwise your engines would all get west?

A. Yes, sir, sometimes they do.

Q. You say sometimes your engines all get west? what do you start your western-bound trains with then?

A. I mean a majority of them; they have the longest lay-over at the west end of the road. 665

Re-direct examination :

Q. Where are the delays to freight trains at the Erie crossing reported to?

A. As a general thing they are reported to the superintendent at Cleveland.

Q. They do not come to your office?

A. Nor, sir.

666

CHARLES LATIMER, sworn and examined by Mr. Greene, testified as follows :

Q. Where do you reside?

A. Cleveland.

Q. What is your profession?

A. Civil engineering.

Q. How many years have you practiced?

A. I have been in the profession something over twenty years. 667

Q. What special branch or department?

A. I have been railroading for seven years; chief engineer of the New York, Pennsylvania and Ohio.

Q. What is your present position?

A. Chief engineer of the New York, Pennsylvania and Ohio, formerly the Atlantic and Great Western road.

Q. Your duty in that position requires your attention to what branch of the business?

A. Charge of all road matters, everything pertaining

668 to the road and the right of way, leases pertaining to
leans, or leases of lands.

Q. Have you at any time been the manager of any
railroad?

A. I have never been manager, I have been superin-
tendent for a short time.

Q. What road?

A. The western end of the St. Louis, Vandalia and
Terre Haute, in the beginning for a short time, and the
669 northern part of the Mobile and Ohio.

Q. Are you familiar with the Lake Shore road and
its branches and connections?

A. Tolerably so.

Q. Are you acquainted with the premises at and ad-
jacent to the proposed crossing here?

A. I have examined them.

Q. When did you examine them?

A. This morning.

670 Q. Have you heard the testimony of the two wit-
nesses who have been last examined?

A. I heard the first totally, and the latter mostly.

Q. What do you say as to whether it is practical and
feasible to construct the road according to the proposed
altered route by an over-crossing?

A. It is a practical route.

671 Q. Will you please state as to what objections there
are known to you, from your experience in such matters
to grade crossing on a railroad?

A. My experience in that matter has been very con-
siderable, and my conclusion is that every grade cross-
ing should be avoided that it is possible to avoid.

Q. Will you state to these gentlemen generally, and
somewhat in detail, the reasons upon which that conclu-
sion is based, the objections to grade-crossings generally?

A. In reference to this particular locality?

Q. First, not in reference to this particular locality?

A. First, there is danger of collision on roads in

Missing Page

676 Q. What other objections or expenses attendant are there?

A. An expense attendant upon that, a very important expense, is a watchman, which costs somewhere about twelve hundred dollars per annum; they are costly on that account. The average cost for a crossing, for watchman and necessary equipment there per annum is about twelve hundred dollars outside of the question of the crossing itself.

677 Q. What in reference to the element of detention of trains at crossings?

A. There is an average of five minutes detention at every crossing; that we determine upon our road, the New York, Pennsylvania and Ohio, by the speed recorded.

Q. That is where there is simply a local crossing?

678 A. At an ordinary crossing five minutes; the best you can get over is an average of five minutes; that is determined by the speed recorded, with which I have determined it; it is a loss of five minutes.

Q. That is at a simple crossing?

A. At a simple railroad crossing; the time you lose in your speed, if you regain it again, you find you have lost five minutes in making the crossing.

Q. By a commissioner: That five minutes is made up by the loss of time in checking the train?

679 A. Yes, sir, until you regain; if you take a line and see where you would have been, passing through, you will find you have lost five minutes; that is my estimate of that, and whatever is lost there has to be made up on the road somewhere in speed, which is lost otherwise if not there.

Q. It is not only a loss of time, but of power and of fuel?

A. Of course there is a loss there.

Q. And an injury to the rolling stock independent of the pounding?

stock independent of the question of the pounding upon 680
the crossing as to breaks used and draw-bars, and upon
the racking of the whole train; you cannot stop a train
at a crossing without a wrench, and very frequently very
serious wrenches to stop a train? sometimes you are
brought up standing at a crossing, and especially in bad
weather sometimes you are obliged to make stops very
suddenly and uncomfortably, which makes the average
stop at a crossing a more serious matter than any other
stop on the road. 681

Q. Is there not an injury to the rolling stock caused
by the increased rate of speed at which you must neces-
sarily run your train in order to make up this detention?

A. That is an element I spoke of before; if you
make up you are about as bad off in making up as you
are in the detention; if you make up your time you have
got to do it at the expense I speak of.

Q. By a commissioner: These blows that are re-
ceived are communicated to the solid wheel and the 682
axle?

A. Yes, sir, it frequently produces accidents we know
nothing of.

Q. By Mr. Greene, resuming: Accidents may occur
somewhat remote from the crossing which are attributa-
ble to the accident received at the crossing?

A. Yes, sir.

Q. In reference to the injury actually resulting to the 683
rolling stock from stoppages at crossings as compared to
the ordinary stoppages at stations, is there any difference,
and attributable to what cause?

A. I claim that the damage by short stops at cross-
ings is more serious than at stations as a general rule.

Q. At stations they may run by?

A. They are not obliged to stand at a certain point;
they are always off running a crossing; at stations they
may go a hundred or two or three hundred feet and it

684 not be a serious matter, but at a crossing you are obliged to stop before you strike it.

Q. If there happens to be anything on the crossing, or the engineer cannot see it in a fog or storm, the train is brought up all standing, and there is considerable damage?

A. That is the reason that I say there is more damage at a crossing.

Q. With the strictest rules and all the safe-guards
685 that science is able to throw around these crossings, is it not a fact that accidents cannot be wholly avoided?

A. Yes, sir, that is a fact; we found it so upon our road with all the care we can possibly exercise; we have had several serious accidents with targets and watchmen; with good men we have had serious accidents.

Q. In regard to the liability of accidents, greater liability in cases of fog or severe storms?

A. Those I believe I have already spoken of.

686 Q. As being likely to contribute to accidents?

A. Yes, sir; it makes a crossing a very uncomfortable thing if you can't avoid it.

Q. Now, as to this particular crossing, from your examination and knowledge and observation of it, is it not a fact that there are other very serious objections to a grade crossing at this point?

A. I think there are very serious objections.

Q. Will you now, in your own way, proceed to state
687 some that occur to you?

A. I should say the paralysis of business at that point, that is, impossibility to do the business in a satisfactory way with an additional crossing at that point, with another crossing—there is one already there.

Q. In what way? Describe how it would operate to paralyze business?

A. I should say that the difficulties of handling a train at that point, getting the cars through on account

of the possibility of having trains come up immediately 688
after upon this road that it is proposed to cross there,
come up to that crossing immediately after the others,
and so holding the trains of the other company, or the
one or the other, to such an extent that it would make
it impossible to transact the business satisfactorily or
thoroughly without some other device or some other
method, which I cannot see now can be devised; as it is,
from my observation, they have every difficulty in han-
dling the business at that point; to put another crossing 689
at this point would double that difficulty, especially if
the road which is about to cross puts a yard on either
side of that crossing, and has to do business itself, it
would certainly increase the expense of the road very
largely, the Lake Shore Road or the roads operating
there; it would require the crossing of seven distinct
tracks besides two other tracks which are subs, or one of
them is used and the other is not at the present used,
but there are seven distinct tracks; it would cut the 690
track which is used for handling empty cars on the north
side, it would cut that one directly in two.

Q. That is the dock track?

A. That is the dock track—and render it very diffi-
cult indeed to handle the business on that track; they
could not handle it as a whole; it would require the
additional keeping up of seven additional crossings,
which would cost a very serious sum to both roads in 691
the handling of their business and their trains, and dam-
age their wheels and rolling stock, to say nothing of the
question of stopping both roads; it would lose a very
great amount of time to the employees of both roads,
especially to the older road, which has already an estab-
lished business at that point which requires the tracks as
they are, transacting in a proper way, and which have
difficulty at the present time to handle the business as it
is.

692 Q. So that you are satisfied, as I understand you, that a crossing there would very materially and seriously embarrass the Lake Shore Company in the transaction of its business, and that from your examination of it you are unable to devise any scheme by which that injury can be averted?

A. Any scheme to prevent that loss as a crossing at that grade.

693 Q. The only way to avoid it would be by an over-crossing?

A. I can see no other.

Q. No change of construction by the Lake Shore Company of the location of its tracks would avoid it?

A. I cannot say that any change there would satisfy me as the owner of the property.

694 Q. What would you say as to the fact that this proposed crossing is in so close proximity to the present crossing as made, presenting more serious objections than if it were further removed from it or distant from it, in other words, bringing two crossings, of two different roads, at grade so close together?

695 A. If it were very far removed, so that it were not in the way of handling trains, entirely removed from that point so that it was not in the way of handling of their cars in connection with the Erie Road, and with their yard, that is a different question, a question of less import—crossing; it would be a question of whether it was possible to go over.

Q. If you were to locate a crossing across the Lake Shore Company's track anywhere, could you select a place which would present greater objections and obstacles, on the part of the Lake Shore Company, than the precise point that they have located their proposed crossing?

A. Not unless I slammed it through the center of their yards.

Q. What do you say as to whether or not there would 696
be a serious objection to changing the line of the tracks
to the southerly of the transfer-house, which connect the
Erie with the Lake Shore, so as to cross the main track
of the Erie south of the transfer-house, or west of it, and
run around upon the west side of it; what do you say as
to the effect, whether there would be a serious objection
to it on account of its crossing the main tracks of the
Erie road?

A. Changing all those tracks? 697

Q. Taking the tracks that now run up on the south-
erly side of the transfer-house, and running them across
the main track of the Erie and down there?

A. And put this road where?

Q. Leaving that road as it is, I am simply speaking
of such a change as that; would there be a serious ob-
jection to changing this, arising from the fact that it
would cross the main track of the Erie at grade—all of
those six tracks crossing; those red lines are the Erie 698
track?

A. Yes, sir.

Q. And the blue are the Lake Shore?

A. Yes, sir.

Q. The question is, would there not be a serious ob-
jection to crossing the main track of the Erie by bring-
ing that connection from there around that way, and
crossing here; wouldn't it be a serious objection?

Q. By a commissioner: Do you mean carrying all 699
those tracks or uniting them in one?

Q. Mr. Greene: One or all of them, increasing the
number of tracks across here and making the connection
in that direction?

A. I should say that was objectionable.

Q. It would be making another crossing across the
Erie?

A. Yes, sir.

700 Q. Just as many more grade crossings as you put in additional tracks across the main line of the Erie?

A. Yes, sir; there is no question about that.

Q. Have you made a careful study and investigation to determine what the cost of such detention as you have mentioned would be per train, the additional cost or expense, and upon that subject have you taken the opinion of all your men under you to obtain facts from which you have made a careful estimate and carefully considered that question?

A. I have had occasion heretofore to bring this question up among all of my road-masters and assistants, and to discuss the question of crossings.

Q. How recently have you made that the subject of investigation?

A. That is a pamphlet that is just out in regard to the investigation I have made with my men.

Q. When was that investigation made?

702 A. Last November; I was simply having a discussion with my men in regard to crossing, and having each one give his opinion.

Q. Those were men employed upon the N. P. & O. road?

A. Yes, sir.

Q. Will you proceed in your own way and state your conclusions upon that subject as to the detention and time and the cost?

703 A. Well, the cost of a crossing has always been a difficult one to handle and say what the cost of a crossing is, the cost.

A. There are only certain methods by which you can arrive at the value of a stop on a crossing, by which it may be arrived at as a maximum and a minimum; as I have demonstrated, or at least I have proved by examination that it takes five minutes of time to stop and that five minutes of time is of a certain value; I could have

run one mile in that time ; now I will take it as a mile, 704 and I will see what the value of a mile is worth ; what is the value of a mile ; I have rated the value of a train mile at not less than seventy-five cents ; the value of a train mile upon our road is worth—

Mr. Locke : The Lake Shore ?

A. The Lake Shore is worth about the same ; there is not very much difference ; it will not be very far out of the way, you might say twenty-five cents, more or less.

705

Mr. Greene, resuming : Substantially the same upon the two lines ?

A. Yes, sir ; I guess theirs is less, but say seventy-five cents, and seventy-five cents, then I arrive at as the value of the stop, or of running one mile.

Q. Of each train ?

A. Yes, sir ; that is a maximum ; I will put it as a maximum seventy-five cents, and I will put it anywhere from fifty to seventy-five cents ; I will take it fifty ; I 706 would not take it as less than fifty cents ; some persons have put it as low as forty cents ; now taking that as a basis, and listening to the evidence in this case, I was obliged to take the number of cars that had been given here, 538,222 through cars for a year.

Mr. Locke : Is that forty cents per car ?

A. No, sir ; for the stopping of a train, including all the expenses of a train, for instance the value of a car, the value of the repairs in the car, the cost of the loco- 707 motive, the running of the locomotive, etc.

Mr. Locke : The interest on the money ?

A. If I did that I would have to put it a little larger ; then there is the trainmen, and it sums up to about seventy-five dollars for a hundred miles ; taking that as a basis and saying that five minutes is worth a mile, and it is a mile, five minutes of loss, which is the same thing, it is a loss of five minutes, and somebody has got to pay

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paralysis would be upon an additional crossing there in 712 the business is something that I cannot tell; I cannot calculate it.

Q. Would it increase the amount?

A. It certainly would very largely increase the amount at that point.

Q. The estimate that you have given is based upon the ordinary crossing?

A. Upon the ordinary, and upon the crossing at the point with the evidence before. 713

Q. Taking into account the switching done at that point?

A. Yes, sir; it is a new method of calculation.

Q. As I understand, in cutting down the estimate which you believe to be correct, in cutting that down fifty per cent. from what you believe the actual cost would be, reduces this capital some, that which would be the interest upon five hundred thousand dollars a year.

A. This is based upon the evidence that I have in 714 regard to the number of cars passing and repassing those crossings.

Q. As stated by you?

A. As stated by me; yes, sir.

Q. Is there anything further upon that subject that you desire to state?

A. I don't know that there is; the wear on the wheels is taken into consideration in the regard to the cost of the train. 715

Q. What do you say as to whether there are advantages in crossing over streets and thoroughfares in the city where there is an over-crossing instead of a grade?

A. It is undoubtedly to the advantage of all roads to do it if they can, unless there is an insuperable objection; wherever you could do it of course it ought to be done.

Q. In this estimate you have not included or taken into consideration the injury to the through traffic upon

716 the Erie road at this point, but only the Lake Shore and the cars that were transferred at that point from the Erie to the Lake Shore?

A. I was only discussing one road at that time.

Q. So that in addition to this sum that you have given, this cost, there would be the injury and cost to the Erie Company?

A. Yes, sir.

Q. It would be relatively in the same portion?

717 A. Yes, sir.

Q. Taking the number of trains and cars that pass there?

A. Yes, sir.

Q. Now are not the delays and detentions greater at a grade crossing, where there are passenger as well as freight trains, than where are only freight trains passing?

A. The passenger trains are frequently detained on account of the freight blocking the ground.

718 Q. That is not the point. Here on the map it appears that this Erie track is used solely for freight?

A. Yes, sir.

Q. These proposed tracks, if used for freight and passengers, would the percentage of delay be necessarily greater?

719 A. Yes, sir; undoubtedly, on account of their holding freights frequently; there was a case I noticed this morning, they held a number of freights waiting while I was there, waiting for the passenger train to come out; that is, there were several locomotives held waiting for the train on the Lake Shore road.

Q. By a commissioner: If that Erie track was to be used also for a passenger track, you think it would increase it?

A. Yes, sir; that is, the proportion would be greater?

Q. The average detention per train would be greater

if a portion of the trains crossing were passenger, than 720 if they were all freight?

A. Yes, sir; decidedly greater.

Cross examination, by Mr. Locke:

Q. When did you arrive in this city?

A. Last night.

Q. What time?

A. Half-past eight o'clock.

Q. Where did you go, when you came here? 721

A. I went directly to the Tift House.

Q. When did you see any of these gentlemen first?

A. I saw one of them last night.

Q. Which one?

A. Mr. Hawks, the engineer.

Q. How much time did you spend with him last night?

A. About half an hour.

Q. Then you went to bed, and what time did you 722 meet them this morning?

A. I went with him at eight o'clock and went on the ground.

Q. How long did you stay on the ground?

A. About half an hour, or probably three-quarters.

Q. Then where did you go?

A. I came directly here.

Q. You have staid here all the time since?

A. No, sir, I went up to the hotel for twenty min- 723 utes and came back here.

Q. Staid here until the adjournment?

A. I came here and heard every word that was said.

Q. Left here at one o'clock and came back at two?

A. About ten minutes after two.

Q. How did you happen to come down here?

A. I was asked to by the Lake Shore Company.

Q. Who asked you?

724 A. Mr. Payne asked me—no, Mr. Mason was the first, or Mr. Getzendanner.

Q. When did he ask you?

A. He asked me four days ago, I think.

Q. Did he come after you again yesterday?

A. He told me he would let me know what time it would be necessary to have my evidence.

Q. Did he serve any subpoena upon you?

A. No, sir.

725 Q. So that you are a volunteer witness?

A. So that I am a volunteer witness.

Q. You hope for favors at the hands of the Lake Shore?

A. I have nothing to ask of them, and not to be paid by them.

Q. How long is your Atlantic and Great Western road?

A. Six hundred miles.

726 Q. Commences where?

A. Salamanca.

Q. How far does it extend?

A. Dayton, Ohio.

Q. You commence at Salamanca and run to Warren?

A. Yes, sir.

Q. You have a crossing of the Dunkirk, Allegany Valley and Pittsburg?

A. Not at Warren.

727 Q. Irvington?

A. No, sir, we don't run to Irvington, we come to Jamestown.

Q. They cross you before you come to Falconers?

A. Yes, sir.

Q. That is a grade-crossing?

A. Yes, sir.

Q. Where do you intersect with the next railroad?

A. At Corry.

Q. There the Pittsburgh and Erie cross you? 728

A. Yes, sir.

Q. The Philadelphia and Erie?

A. Or, the Philadelphia and Erie, not called the Pittsburg, Titusville and Western.

Q. Buffalo, Pittsburg and Western?

A. Buffalo, Pittsburg and Western.

Q. Both grade-crossings?

A. Both grade-crossings, I am sorry to say.

Q. Then you go how far before you strike another 729 railroad?

A. Then we come to Ammassy crossing, east of Greenville, that is another grade-crossing.

Q. Then you go on to the Erie and Pittsburg?

A. Yes, sir.

Q. That is another grade-crossing?

A. Yes, sir.

Q. Then where do you go?

A. Then we come to Levittsburg—no, one at what is 730 called Latimer, named after me, I suppose.

Q. That is a grade-crossing?

A. Yes, sir.

Q. What road?

A. The Mahoning coal road, then the Ashtabula and Pittsburgh road.

Q. That is a grade-crossing?

A. Yes, sir, and the Painesville and Youngstown is 731 another grade-crossing, and there we come to Levittsburg, and that is another one?

Q. Go on.

A. Then we come to the Cleveland and Pittsburgh.

Q. What is that?

A. That is another grade-crossing.

Q. Then, go on.

A. Then we come to the Conotton Valley road at Kent.

732 Q. What is that?

A. That is an over-crossing.

Q. How many grade-crossings have you got on your road and branches?

A. I think we have twenty-eight.

Q. Do you attribute the continued insolvency of the Atlantic and Great Western Road to these grade-crossings?

A. We have to run our train sixty miles an hour on
733 account of those crossings.

Q. When did you make this intricate calculation?

A. I did it right in this room.

Q. While we were taking testimony?

A. Yes, sir.

Q. While you were trying to follow?

A. Yes, sir: the latter part of it.

Q. Would it modify the result of your figures if you
734 should assume that under the existing conditions of affairs, the Lake Shore road had to stop at that crossing anyway, whether there was a crossing there or not?

Q. Would it make any difference with the result of your calculation provided every train on the Lake Shore road, for reasons totally disconnected with the crossing, was compelled to come to a stop before reaching the point of crossing, whether the crossing was there or not?

A. That is—

735 Q. Answer it, yes or no?

A. I am not going to dodge any question.

Q. Answer it, yes or no?

A. I want to answer that question exactly right as near as I know how. You mean a crossing already being there?

Q. No, sir; I am not saying anything about a crossing there?

A. Give me the question again.

Q. Would it make any difference with the result of

your calculation provided every train on the Lake Shore 736 road, for reasons totally disconnected with the crossing, was compelled to come to a stop before reaching the point of crossing, whether the crossing was there or not?

A. Of course if there was no crossing there, I would have to modify it.

Q. It would wipe it out altogether, wouldn't it?

A. The stopping of the train there would be a stopping.

By a commissioner: I understand this witness to say 737 that his estimate was based upon other crossings, not this crossing?

A. Any crossing of that amount of business.

Q. By Mr. Locke, resuming: Then I will ask you this: Do you mean to swear that every grade crossing of the Atlantic and Great Western road costs you fifty-seven thousand dollars a year?

A. No, sir; by no means.

Q. I will ask you another question: How much 738 would it diminish your estimate provided you eliminate everything connected with the stoppage of the train at the crossing?

A. Everything but the stoppage.

Q. Everything connected with the stopping of the train at the crossing?

A. Eliminating everything connected with the stopping? 739

Q. With the stopping of the train at the crossing?

A. So that there would be no stop at all?

Q. You will eliminate all that element in figuring that cost?

A. I don't understand it.

Q. Suppose you eliminate from your estimate all expenses connected with the stopping of the train, how much would the cost of the crossing be?

A. I don't exactly see the point.

740 Q. Question read by the stenographer, as follows:
Suppose you eliminate from your estimate all expenses connected with the stopping of the train, how much would the cost of the crossing be?

A. Well, that requires a calculation which I cannot make for you.

Q. Why cannot you make it?

A. Not just now. I could figure it up, probably, but it requires time.

741 Q. Will you figure it up for us?

A. Yes, sir; I will see what I can do for you. Of course I don't want to avoid the question.

Q. You said, if I understood you, that one great danger connected with this crossing was that there would be collisions?

A. Yes, sir; very great danger of collisions.

Q. And that foggy weather would be very serious in that regard?

742 A. Yes, sir.

Q. I suppose foggy weather would affect it because in foggy weather the trains would not know when they were near the crossing and would not stop?

A. Yes; they would not know it until they came close to it and stopped suddenly.

Q. Don't you suppose the existence of that bridge over Buffalo River, fifteen hundred feet away, would be sufficient to give notice to every engineer that he was
743 approaching this crossing?

A. It would be a very good one, but it might be mistaken for some other bridge.

Q. He might think it was some other bridge. The first bridge, I think, that is of any consequence, is at Erie. He could not mistake it for the Erie bridge?

A. I don't know where the nearest bridge is, but it is a very good land-mark.

Q. That bridge would eliminate a good deal of that 744 trouble in case of fog?

A. Yes, sir.

Q. I understood you to say that it would be a great deal better if this crossing were at least a train's length from the Erie crossing?

A. Yes, sir.

Q. Now, this crossing, if it is only one hundred feet from the Erie crossing, or two hundred away from the 745 Erie crossing, would only require one target, would it, for them both?

A. That is true.

Q. It would only require one target man or one set of target men?

A. That is all.

Q. It would only require one stop for both crossings?

A. Yes, sir.

Q. If it were fifteen hundred feet away, you would 746 have to have separate targets and separate target men, and you would have to have separate stops?

A. Yes, sir.

Q. Still, you think this crossing would be better for the Lake Shore road if it were fifteen hundred feet away from an existing crossing?

A. Decidedly.

Q. Although it should occasionally occasion the ad- 747 ditional stoppage of each train?

A. Yes, sir.

Q. Assuming that the Lake Shore Road always has the right of way, and that the Erie Road always has the right of way, and the Lackawanna comes last, and the Lackawanna is the only train that has to stop at the crossing, and the Lake Shore Road does not have to stop at the crossing, would that effect your calculation in its results?

A. It would effect it in some measure. But it would

748 not effect the delays that take place there. The delays take place necessarily there on account of the impossibility of getting out to do the work; and there are delays all over the road on that account.

Q. It would not effect your calculation where you estimate that five hundred thousand cars have got to cross this crossing seven or eight times?

A. I believe the delays alone all over the road is an immense sum of money which I shouldn't wonder if it 749 was as much as that, even throwing out the question of stopping.

Q. Can you calculate those?

A. You can calculate it worth just so much money.

Q. The question how long a certain train would be delayed, would that have any dependence whatever on the question whether the train had stopped at the crossing or not?

A. The stop of the cars is one thing and the delay is 750 another, but delays are calculable and so are stops. A delay is a perfectly calculable thing.

Q. Do delays in switches in the yard have any effect outside of the yard?

A. Yes, sir.

Q. They do?

A. Yes, sir.

Q. You think that a delay in switching in that yard would have an effect upon the trains all along the Lake 751 Shore road?

A. For some distance.

Q. Because of preventing trains from coming in?

A. It prevents their coming in and going out; it holds them right there.

Q. Do you know anything about the manner in which these tracks are run?

A. Something; I was there this morning and examined; I have a general knowledge of that thing.

Q. Doesn't the fact that every train has to stop there 752 entirely eliminate your calculations, entirely destroy the force of your calculations?

A. No, sir; it does not.

Q. Did you not, in your direct examination, in telling how you came to that result, expressly state that all you figured upon was the delay of trains?

A. I gave you two bases of calculations and said that one proved the other.

Q. Did you not attribute the entire cost which you 753 gave us to the delay of trains, and figure that as so many miles of operation of railroads?

A. I gave you that in the table and stated at the same time; I stated that the time and calculations agreed.

Q. If every train has to stop anyway does it not entirely take the foundations out of your calculations?

A. No, sir.

Q. Does it take any part of it out? 754

A. It would take out a portion of it.

Q. You spoke about wear and tear, the cost to rolling stock and wheels from stopping the train at that point, the application of brakes?

A. Yes, sir.

Q. That should all be eliminated in case the train has to stop anyway, shouldn't it?

A. I think the stops in the yard would be doubled; 755 you would have to have a great many more stops there than you have now, double as many stops on account of other trains passing over.

Q. That would depend to some extent on the extent of the use of the Lackawanna?

A. If they did no business it would be a dead letter.

Q. Have you assumed as your basis of calculation any particular amount of business on the Lackawanna road?

756 A. I presume they will have a large amount of business.

Q. Have you assumed any particular maximum or minimum as the standard of their business?

A. No; I have not.

Q. Wouldn't that enter into the calculation to some extent; I suppose if they were running a train across every two minutes it would be more expense than if they were running a train every two weeks?

757 A. Very considerably.

Q. You have not taken any particular quantum of business upon their part as a standard of your calculation?

A. I presume, it being a road with a double track, that they calculate to do a very large business.

Q. Have you figured for a very large business?

A. I only know that there was a double track proposed and I supposed; I did not figure upon their business, but no road is going to build a double track unless
758 they calculate to do a large amount of business.

Q. You have assumed that every single stop of every single train at that point is to be attributed to the Lackawanna road, have you not?

A. No, sir.

Q. Have you not figured the stoppage on every single Lake Shore train on that road?

A. All the Lake Shore trains, yes, sir.

759 Q. You have figured the stop on every Lake Shore train?

A. Yes, sir.

Q. You have calculated that that stop is occasioned by our crossing?

A. No, sir.

Q. Then why should you say that is the expense of crossing?

A. I should say that the additional crossings there will make just as much expense as there is now.

Q. Would it depend at all upon the usage of the road? 760

A. Putting another crossing there will make an additional expense nearly the same as there is now.

By a commissioner: Q. By the Erie crossing?

A. Yes, sir; I say paralysis of the business will make it just about the same amount; I say an additional amount of business there would be required.

Q. If one train happens to go through there when there is no Lackawanna train in sight, or wanting the target, or calling for it, there is no occasion for delay on the part of the Lake Shore train, is there? 761

A. Yes, but I consider.

Q. Is there?

A. No.

Q. Then that train should be counted out in your estimate, shouldn't it?

A. There are seven crossings there that I am obliged to take into consideration.

Q. I want yes or no? 762

A. I cannot say yes or no to a question of that kind, there are seven crossings there.

Q. Does it make any odds whether there are seven or seven hundred crossings, providing there is no train coming on the other road?

A. Yes, you have got to watch seven lines instead of one.

Q. You have got one target, have you not? 763

A. That is not going to control seven different tracks.

Q. It cannot?

A. No, sir, I should think not.

Q. You have got a pretty thorough acquaintance with the railroad business in this country, have you not; do you know anything about the Grand Central depot in New York?

A. I have been in it, but I don't recollect it particularly.

764 Q. Have you been outside of it?

A. Yes, sir.

Q. Have you ever seen the system of tracks between 50th and 56th streets?

A. I have not observed them particularly.

Q. Don't you know, as an expert, that every single train that comes out of the Grand Central depot crossing at grade all the tracks which lead into that depot?

A. No, sir, I do not.

765 Q. Assume that it is so, that every train going into the Grand Central depot passes at grade the tracks of the outgoing train, and that every outgoing train crosses the tracks of the incoming trains, what should you say?

A. Is it a freight road?

Q. No, it is a passenger road.

A. Only passengers?

Q. The Harlem freight?

766 A. They could easily handle it with nothing but passengers, but passengers all under one accord, it is under one management.

Q. No, sir, the New York and the New Haven, the Harlem road, the Hudson River road, they are all run by one dispatcher, just as these crossing are run by one target man precisely; you spoke of the danger of accidents?

A. No, sir.

767 Q. You are crossed, as I understand you, at Falconer's by the Dunkirk, Allegheny & Pittsburgh?

A. The D. A. V. & P. crossing.

Q. Have you ever had an accident there?

A. I think there was one.

Q. When?

A. About three years ago.

Q. What was done?

A. I can't remember, an engine ran into another, I think.

Q. It was not enough of an accident that it made 768 much of an impression upon you?

A. No, sir, because there wasn't anybody killed; we never had anybody killed; we have done a good deal of damage to material, but fortunately nobody killed.

Q. After our conversation aren't you willing to admit that your conclusion of \$57,500 a year needs revision?

A. I have cut it down half.

Q. Don't you think that it is careless work to come in here and testify to a calculation without assuming any 769 standard of business over the crossing road?

Mr. Milburn: He says he takes it as a double track railroad?

A. I don't know what business they are going to have on the road, but as it is a double track road it must be a pretty big road.

Q. If you don't know what kind of business they are going to have why can you here swear to a calculation?

A. I will tell you that my judgment is, that the dam- 770 age—that the cost—to an additional crossing will be just about as much as what is there now.

Q. You think it would?

A. Yes, sir, that is the best that I could give you as an opinion.

Q. Why?

A. Because I say that it is an insuperable objection; if I were managing the road, and you asked my opinion, I should give you that; as the one managing it, I should 771 feel it so.

Q. Is that the best reason that you can give?

A. That is according to my judgment, it is not biased.

Q. Will you tell me why this crossing will double the expense, or will double the trouble occasioned by the existing crossing?

A. You know that where you have one train on one road, and you have another road coming in with just as

772 many trains, or likely to be as many trains as that in time, with the same difficulty stopping you, after a while you will not be able to do your business at all.

Q. From that you figure out that it will cost \$57,500 a year?

A. Yes, sir, and may be more.

Q. Will you explain why the trouble should be doubled provided the stoppage of the train enters into the computation at all; if the stoppage of the train is caused
773 by one crossing, the addition of another crossing would not add to the trouble at all, would it?

A. The embarrassment and the stoppage of trains—

Q. That is poetical?

A. That is not poetical; it is real.

Q. You say the trouble occasioned by a crossing is, first, stoppage; second, wear and tear of wheels; third, danger of accidents?

A. Yes, sir.

774 Q. Mr. Greene: You have left out delay?

Q. Fourth, delay; if you have another crossing put right along side of the first one you don't have any more stopping, do you, than you have with one?

A. No.

Q. Then you should not count that a second time?

A. Wait a minute—I mean no more stopping on the whole; I can't even say that, for you will have an additional amount of stopping, because trains on the other
775 road may not come exactly at the same time, and they will hold trains of a different class.

Q. You will have as much stopping?

A. No, sir; but you will have a diminution of stopping.

Q. The cost would not be quite as much a year?

A. No, sir, not quite; but I say that half of the amount of that will be fairly chargeable to that.

Q. How do you figure that half amount?

A. In stoppages, delays around that crossing, and injury to the rolling stock 776

Q. What per cent. do you figure, calling the whole thing a hundred—what per cent. do you figure for stoppages?

A. Well, I can't say.

Q. How much for delays?

A. Just according to the time of the delay.

Q. How much for injury by accident?

A. Just about insurance, I suppose. 777

Q. How much for interference of business?

A. Vast.

Q. How much for injury to the rolling stock?

A. Well, that is very considerable.

Q. What per cent.?

A. That I could not tell you.

Q. So that you could not tell what the percentage of any element entering in the matter is, but yet you are willing to swear that the whole thing amounts to so many dollars? 778

A. I can calculate the amount of damage to wheels, and come at it either by a minimum or maximum.

Q. Did you hear Mr. Buffum testify here this forenoon?

A. I heard all the testimony.

Q. Did you not hear Mr. Buffum swear that every train stopped at this point, both coming and going? 779

A. No, I did not hear him say so.

Q. Still you insist upon the proposition that if the commission should remove this proposed crossing fifteen hundred feet away, and therefore occasion a new stoppage for every train coming, that it would be better for the Lake Shore road; I understand you that?

A. Yes, sir, I think so decidedly.

Q. Then don't it mathematically follow that it is a

780 kind of a benefit to a railroad to be compelled to stop its trains?

A. No.

Q. Don't it mathematically that two stoppages are better than one, if that is so?

A. No, because there are a great many of them. Did you notice in what I said that there were 522,000 cars that passed over there, and that some of these cars passed over twice, so that there were 73,000 cars that passed
781 over four times?

Q. Yes.

A. And there are fifty trains.

Q. You estimated that every single one of those cars would be delayed five minutes by the Lackawanna crossing.

Mr. Greene: No, sir, he did not say that.

A. A general delay of trains.

Q. Do you mean to say that the Erie crossing there
782 in your judgment costs the Lake Shore road \$57,500 every year?

A. I don't know that I would like to pay it for that.

Q. Will you please figure and tell us how much in your judgment, first, the Erie crossing costs the Lake Shore road; figure up first and give me how much the Erie crossing there costs the Lake Shore road; next, how much the Erie and the proposed crossing of the
783 Lackawanna road together would cost the Lake Shore road per year, assuming that the Lake Shore road already, from reasons irrespective of the Lackawanna crossing, are compelled to stop all trains at that point already?

A. Well, there you see you would have to go into the question of the absolute necessity of transacting the business which is already existing between the roads; that is a question that is sometimes paramount to a grade crossing.

Q. Go right in on that and let us see how much the 784
Lake Shore is damaged per year by the Erie crossing,
and how much both together will damage the Lake
Shore road, assuming that the trains have to stop there
already? Figure it at your leisure, and I will call you
back?

A. I cannot do that unless I take in the other ele-
ments too, of the question of what business they have to
do there.

Q. How did you make your other calculation then 785
without those elements?

Mr. Greene: He made the other calculation with the
elements.

Q. Use the same elements that you did before?

A. I will have to take the business they are to have,
and that is a question of the expediency of having a cross-
ing for the purpose of transacting certain business; you
have a certain business to do, and you have got to have it
transacted in a certain place, and those questions arise 786
paramount to anything else.

Q. Figure this just exactly as you figured it before
when you gave us the \$57,000, only separate the two;
give us how much the Erie crossing costs the Lake
Shore, and secondly how much the two combined cost
the Lake Shore Road, and take any data that you had
before as the basis of your calculation?

A. I will have to get the number of trains on the 787
Erie road.

Q. You did not have it before.

Mr. Milburn: He said that was the damage to the
Lake Shore.

Q. That is all that I am asking now.

A. If the commission want me to figure at it, I
don't know how I am going to do it unless I take it as a
separate question altogether, in which the business must
come in.

788 Q. I understood the engineer to say that he understood your testimony in regard to \$57,500, to apply to the existing Erie crossing?

By Com. Clark: I understood it to apply to any crossing there?

Mr. Greene: Any crossing where such an amount of business as is transacted over the Lake Shore road, was transacted.

Q. What data did you have to make your calculation
789 upon?

A. I had the data of the witnesses before, which gave me the business on the Lake Shore road.

Q. Did you have any data in regard to the Erie road?

A. There was 73,000 cars per annum passing between the Erie and the other road, and that they passed over that crossing four times, therefore such a crossing as that would cost so much.

790 Q. Then you see you start first with the business of the Lake Shore Road, and second with the transfer business of the Erie road, and you say that the Erie crossing costs the Lake Shore \$57,500 a year—that is where you come out?

A. Yes, sir.

Q. Now you say that the Lackawanna crossing almost contiguous, will cost as much more, do you?

A. I said that to be safe; I would take it at half.

791 Q. That is, you would knock the Erie off?

A. I think it would really cost the Lake Shore that amount of money.

Q. For the Erie crossing, or the Lackawanna crossing?

A. For such a crossing as is there.

Q. For the Erie crossing?

A. For a crossing such as is there.

Q. Then you say that the Lackawanna crossing will 792 cost it \$28,000 a year more ?

A. I should judge it would.

Q. Now, one of the items which you figure into the expense ?

A. Yes, sir.

Q. Now, how many dollars of that \$28,000 do you charge to the stoppage of trains ?

A. It is all on a basis of the delays of trains.

Q. Just answer that question, how many dollars of 793 the \$28,000 do you charge to the stoppage of trains, in round numbers ?

A. I would not like to make a guess at it.

Q. Can you not compute it ?

A. Yes, sir ; I suppose it might be computed.

Q. How many dollars do you charge to the stoppage of trains in the computation that you have testified to ?

A. I took the matter as a whole.

Q. Did you guess at the whole thing? 794

A. No, sir ; I did not guess it, I calculated it as I show you, but there is a basis of delay to all the trains coming to that crossing.

Q. How many trains do you calculate would be delayed at that crossing ?

A. That they all would be delayed some.

Q. That every train that came there would be delayed ?

A. Yes, but that the average would be so much. 795

Q. You figured the average at five minutes ?

A. Yes, sir, as a basis.

Q. Do you mean to say that in your judgment as an engineer, at that crossing every train that comes there is delayed five minutes ?

A. An average of it, yes, sir.

Q. You think it is ?

A. Yes, sir.

796 Q. How many hours does that make of delay per diem, every twenty-four hours?

A. Four hundred and ninety minutes, is it not? There are eighty-six trains altogether—seven hours.

Q. Do you mean to testify that in your judgment trains this day will wait seven hours on the Lake Shore road for that target?

A. No, sir; there is no train that waits seven hours for it.

797 Q. That the combined waiting of trains will aggregate seven hours for that target?

A. For that many trains? Yes.

Q. Yes.

A. Yes, sir, undoubtedly. Suppose you count two or three trains five minutes, or three trains ten minutes.

Q. Assume that the fact is that they have not averaged a minute apiece, the delays, one minute apiece, this day, would that divide your twenty-eight thousand by
798 five?

A. Certainly it would. The delays of the target do not prove anything, or all at least, because you may have a train waiting in the yard.

Q. It is not trains that are waiting at the target that you are talking about?

A. Not altogether.

Q. You speak of the paralysis of business at that
799 point?

A. Yes, sir.

Q. That is occasioned by these delays that you talk about?

A. A difficulty of switching and handling business at all.

Q. Has the Lake Shore railroad been in operation all the time that you have been in the Atlantic and Great Western road?

A. Yes, sir.

Q. Have you ever heard of any particular paralysis 800
of business on the Lake Shore road?

A. Sometimes; yes, sir.

Q. Because of the New York and Erie crossing at
Sandusky street?

A. No, sir.

Q. You have because of the strikes perhaps; but you
have not on account of this New York and Erie crossing,
have you?

A. No.

801

Q. Now then that Erie crossing has not paralyzed
the business of the Lake Shore road yet?

A. No, sir, because the business is joint there.

Q. Is it all joint do you understand?

A. Principally.

Q. Who told you that?

A. I can see it.

Q. Don't you know that all the grain that is shipped 802
from Buffalo by the Erie road and all the freight that
comes to the Erie road by water crosses that track with-
out ever going upon the Lake Shore tracks except at
the point of crossing?

A. Some of it goes the other way, don't it?

Q. No, sir; it all goes over there. Assume that all
grain that goes east by the Erie road, that all freight for
water transit that comes by the Erie road, that all freight
that comes destined for the east over the Erie road passes 803
that point, and yet the Lake Shore road has been able to
do its business, would not those facts combined tend to
show that that crossing had not paralyzed the Lake Shore
road?

A. Certainly they have not paralyzed it.

Q. But you think if the Lackawanna crossing was put
in there too the dog would be dead?

A. If you put seven more crossings in I think you
would produce more paralysis.

804 Q. Don't you think it would be total?

A. No.

Q. The Lake Shore would be able to do some business?

A. There is no doubt of that.

Q. Is it an extremely difficult thing to re-arrange tracks?

A. Well, you can change tracks.

Q. You can ship them?

805 A. Yes, sir.

Q. It is a thing within the possibility of engineering skill?

A. Yes, sir.

Q. You could do it, couldn't you?

A. I think I could.

Q. With three or two thousand feet of yard room there, independent of those tracks, you could do considerable business, couldn't you?

806 A. Oh, yes.

Q. You could take a little more land and still do a good deal more?

A. Yes, sir.

Q. And ship your tracks around?

A. Yes, sir.

Q. So that the matter of paralysis would be a thing that could be doctored?

A. If you had the money.

807 Q. In your calculations here have you considered this the main line of the Lackawanna road, or what?

A. I took it as the road, bringing all of its coal into Buffalo, and its passenger business.

Q. Where did you get your information about the Lackawanna road?

A. I got it from Mr. Hawkes.

Q. The Lake Shore engineer?

A. Yes, sir; is it correct?

Q. Did he tell you that he had another line around 808 to the bridge?

A. Yes, sir.

Q. Did he tell you that they had another line around to the light-house?

A. He did not tell me that they had another line, but they have got something on paper; I don't know if there is a line built; there is a line there.

Q. He told you they were trying to get a line around there, didn't he? 809

A. He said they had planned a line there, but this was to be the—

Q. Did he tell you that they had commenced work on it?

A. No.

Q. All your figurations here have been on the basis of what Mr. Hawkes told you?

A. Is it true?

Q. That is not the question? 810

A. Well, I took it for granted—

Q. All your calculations have been on the basis of what Mr. Hawkes told you?

A. Yes, sir; and with the understanding that a double track was planned across there.

Q. How much coal business do you estimate the Lackawanna road are going to do?

A. I suppose it would be very considerable; their 811 docks were pointed out to me.

Q. How much tonnage do you figure?

A. I only know that no road is going to build a double track without having a very large business.

Q. You figure for a very large business?

A. Wouldn't you?

Q. I don't know whether I would or not. I am not an expert?

A. I don't know whether I am an expert or not. If

812 a road is going to build a single track, I think they would proceed more cautiously. If they build a double track, they mean a large business.

Q. You do not figure for any particular tonnage or particular passenger business?

A. I suppose, as a matter of course, they are going to have a large business?

Q. Do you mean to testify that your calculation is accurate, or made upon sound premises as a mathematician?

A. As far as the cost of that crossing is concerned, I believe it is entirely sound.

Q. I suppose an alteration in that route of two hundred feet would be of great advantage to the Lake Shore road, assuming that both crossings were to be grade-crossings, wouldn't it? Suppose you move two hundred feet towards the bridge, it would be very much to the benefit of everybody concerned, and the public, 814 wouldn't it, to have it moved two hundred feet, even if we had a grade-crossing two hundred feet away?

A. I suppose that would help a little.

Q. How much would that take away from the \$28,000.00 a year?

A. I don't know.

Q. Ten thousand?

A. Oh, no; I guess not.

815 *Re-direct examination*, by Mr. Greene:

Q. The numerous grade crossings you have mentioned as upon your road were constructed a good many years ago?

A. Yes, sir. There are some that have been constructed lately.

Q. Many of them are cross-roads that do comparatively a small business?

A. Yes, sir.

Q. What you have stated here as to the serious ob- 816
jections of grade crossings is based partly upon your ex-
perience upon this road, and the numerous grade cross-
ings with which you are familiar?

A. Yes, sir.

Q. The traffic that passes over your road is what, as
compared with the traffic over the Lake Shore, as stated
here, and as taken by you in your estimate?

A. It is not more than one-half, perhaps two-thirds.

Q. You stated to the counsel that this bridge would 817
be a good indication of the locality to the engineer, and
that sort of thing, in foggy weather? Is there not
a serious objection, and a difficulty arising from the fail-
ure to observe or to be able to observe signals?

A. Very great, sir.

Q. Not only upon the trains but by the men in
charge at the crossing, in their observation of approach-
ing trains, or cars that may be moved for switching or 818
other purposes?

A. Yes, sir; there are difficulties and dangers regard-
ing that?

Q. Taking a freight train forty cars long, coming at
the rate of twenty-five miles an hour, we will say, down
grade, the grade is twenty to twenty-five feet to the
mile, and a freight train of forty cars, within what dis-
tance can it stop?

A. It can stop in about twelve hundred feet. 819

Q. On that grade?

A. Yes, sir, I think they could, by a very strong
movement.

Q. What sort?

A. I don't know that we could stop. It would be a
difficult thing to stop.

Q. With the ordinary brakes?

A. They would have to be on the watch, every one,
and they would have to reverse. Ordinarily I don't

820 know that they could stop at that. It is twelve hundred feet from the bridge to the crossing.

Q. Taking your foggy days and dull days, and your freight trains coming as they travel on that road?

A. It would be touch and go from the time you struck the bridge until you struck the crossing; it could be done.

Q. Every man would have to be at his post?

A. Yes, sir.

821 Q. And go right to work at his brakes?

A. Yes, sir.

Q. And then it would be a close thing?

A. Yes, sir.

Q. Among the numerous grade-crossings that you speak of upon your road, is there any one as complicated, or that presents such serious objections and difficulties as this proposed grade crossing?

A. No, sir.

822 Q. Or anything approximating it?

A. No, sir.

Re-cross examination, by Mr. Locke :

Q. Do you know what the maximum speed of freight trains is on the Lake Shore road?

A. No, I don't; ours is twenty-five miles an hour.

823 Q. Now, if it is so difficult to stop going down that grade, is not the removal of the proposed crossing, as far north as possible, desirable—as far from the bridge as possible, desirable; the nearer you brought the crossing to the bridge the more dangerous it would be in regard to stopping?

A. In regard to a question; yes, sir.

Q. Had you figured that before?

A. No, I had not.

Q. Supposing that trains have come up a pretty severe grade to get upon the bridge, and part are on the

bridge, and part are over the hill on the other side of 824 the bridge, is it less difficult to stop the train?

A. Yes, it is less difficult.

Q. It is less difficult to stop if the ends of the train are on different sides of the summit?

A. Yes, sir.

Q. Is the Atlantic road extending its road to Chicago?

A. Not the Atlantic road, but there is another road called the Chicago and Atlantic going to be built.

Q. Is that in the interest of the Atlantic and Great 825 Western road?

A. No, sir.

Q. Is it not a road intended to be consolidated with yours?

A. Not that we know of.

Q. Is it not built by the parties in interest who control your road?

A. No, sir.

Q. Is not Mr. Devereaux an officer of the new road? 826

A. No, sir; he has something to do with it.

Q. Has it not been advertised as an extension of your road to Chicago?

A. It has; but I presume it is not accurate.

Q. Have you not heard such rumors?

A. Yes, sir; I have seen it in the papers.

Q. Have you had anything to do with the road?

A. No, sir.

827

Q. Have you ever been over it?

A. I have had something to do with it in this respect, that I was asked the question whether the estimate was a fair one.

Q. You were consulted on that question?

A. Yes, sir.

Q. Have you ever seen the maps or plans?

A. I merely had it traced on the profile; I am not

828 in a position to know if it was in that position which you are trying to get at, and it is not I think.

Q. Do you know whether it crosses any important lines of road?

A. It does.

Q. Has it any over-head crossings?

A. I don't know.

Q. Don't you know that every one of them are grade-crossings?

829 A. No, I didn't.

By Com. Clark: Q. Do you know the point at which the altered route crosses the Lake Shore as proposed by the petitioners?

A. Yes, sir; I have stood on the point.

Q. Will you state what, if any, objections which you have stated here, to the grade-crossing at the point chosen by the Lackawanna, would not apply to the point of the altered route at grade?

830 A. Just let me look at the switches at that point. The difficulty of switching, coming out and getting in between, and having the two to contend with, would make it about the same thing, I should think; they would have the two to contend with, and many times could not get out.

Q. Supposing this should be adopted instead of the other, would the same objections apply?

831 A. Pretty much the same; yes, sir; it could not be quite so serious.

By Mr. Greene: Q. The same objections would apply in a slightly modified degree?

A. Yes, sir; there are seven crossings right there.

By Mr. Greene (presenting Exhibit "4"): Q. Will you look at the proposed lines of the Lackawanna road, the main lines, line "B" and line "A"; can you observe that there is any object in, or necessity for both of, those lines "A" and "B"?

A. I cannot; I am at a loss to know why two lines 832 should be there.

By Mr. Locke: Q. Did you ever look at it before this minute?

A. Yes, sir; I saw it, and asked what was the cause of it; I said "What in the world is that for?"

CHARLES HILTON, sworn on behalf of the petititioners and examined by Mr. Greene, testified as follows:

Q. Where do you reside?

833

A. In Albany.

Q. What is your profession?

A. Civil engineer.

Q. For how many years have you been?

A. About thirty.

Q. Upon what work have you been engaged, and what part of it?

A. The beginning of my business was in an engineer's office in Lowell, Mass.; then for two or three years I was upon a railroad in New Hampshire, and in charge of ten or twelve miles of construction; in 1852 I came to this State and was a resident engineer upon what is called the Attica & Allegany Railroad, a road which is not finished; the company failed; in the fall of 1853 I went upon the New York Central Railroad; I was in the service of that company until about 1867.

Q. From 1853?

835

A. From 1853; in 1869 I was appointed chief engineer of the Hudson River Bridge Company at Albany; superintended the construction of that.

Q. And built it?

A. And built it; after that I was engineer of the Leighton Bridge and Iron Works at Rochester; I was also engineer of the Erie Canal; in 1874 I went to New York in charge of what was called the 60th street improvement terminal facilities of the New York Central

836 and Hudson River Railroad Company, in New York ; built some docks and piers, and an elevator, and some other buildings ; I then returned to Albany and organized a bridge company, of which I am vice-president and engineer at the present time.

Q. Have you had a considerable practical knowledge and experience in reference to the crossings of railroads at grade, and have you considered the disadvantages resulting from such crossings ?

837 A. I have, necessarily, in the course of my professional business.

Q. Will you state to the commissioners the principal objections that occur to you to grade-crossings in general ?

A. The first great objection is the danger of collision ; because they involve not only damage to property, but danger to human life ; this danger may of course be reduced to a minimum by extraordinary care in watching the crossings, and proper signals ; but accidents do occur
838 at crossings ; there will always be danger of accidents from collisions.

Q. And that danger would increase in proportion to to the traffic over the road at the points of intersection ?

A. In proportion to the frequency of the crossings.

Q. What other objection ?

A. The second principal objection is the necessary breaking of the track by making openings in the rails ; the result of which is injury to the track and to the rolling stock very materially.
839

Q. The breaking of the track, you say ?

A. Yes, sir ; I mean the breaking of the continuity by the crossing frogs.

Q. What effect does that have, this breaking up by means of these heavy crossing plates ; what effect does it have upon the rolling stock ?

A. Well, breaks and inequalities of that kind constitute the principal destructive element in the road-bed,

upon the rolling stock ; if the track was perfectly smooth 840 the rolling stock, wheels and axles, would last an indefinite length of time ; it is the blows that they receive from bad crossings and bad rails, and shocks they receive in crossing over these crossing plates, that cause the breaks of wheels and axles in time.

Q. Every time a car-wheel passes over a crossing plate, it being so much heavier and more solid than the tracks adjoining, it receives a blow, does it not ?

A. Not so much that as the openings in the rails ; the 841 wheel drops into it every time it crosses over and strikes the next rail with a blow.

Q. And this crossing-plate being so heavy and securely placed, is more solid, and the wheel receives a more severe blow than would be received simply from an equal separation of the rails at another point ?

A. Well, I don't consider that that would be so serious ; it depends, in a measure, upon the manner in which the track is kept up on either side of the track ; if it is 842 kept up properly and no opening, I do not consider that the heaviness of the plate would be any serious injury at all.

Q. But there being this opening upon this solid plate, there is, necessarily, a severe concussion or blow every time the wheel passes over it ?

A. It is the opening in the track.

Q. And that produces what effect, or may produce 843 what effect upon the wheels and axles ?

A. It produces a shock or a blow, as I mentioned ; as the wheel passes over the end of one rail it drops—in proportion, of course, to the width of the opening—and strikes the end of the next rail ; it does not go smoothly but it drops.

Q. Is that liable to produce a breakage of the wheel or axle ?

844 A. That tends, of course, to produce a breakage of the wheels and axles both.

Q. And may produce such an injury as to result in an accident at a point more or less remote from the crossing?

A. Oh, yes; it is the many repetitions of these blows that result in the breaking of the wheels and axles.

Q. In reference to the effect upon the car generally,
845 from the shock or jar, has that an injurious effect?

A. Not so much upon the car body as upon the rolling gear; it is principally upon the axles and wheels.

Q. How as to the wearing out of the crossing-plates, and the expense of replacing them?

A. The annual expense is great in proportion, of course, to the frequency with which they are used; also the speed with which the cars go over them; it is found very difficult to get crossing-plates that will last as long
846 as rails on either side; they wear out very fast.

Q. Relatively about how long?

A. I am unable to say how long; there are so many kinds of crossing-plates; some last longer than others, and it depends a great deal upon the care which is bestowed upon them.

Q. What other objections do you think of?

A. Those are the principal objections.

847 Q. You have given us the danger and the injury to rolling-stock; now, in reference to through lines, where there is considerable traffic, what would you say as to there being a serious objection on account of stoppage of trains and delay resulting from the crossing?

A. Where the running of trains is interfered with, and they have to be brought to a stop, of course the question of delay is important.

Q. Have you been over the premises in question here

where the Lackawanna proposes to cross the Erie and Lake Shore tracks?

A. Yes, sir.

Q. And made an examination of the premises when?

A. Yesterday morning.

Q. Have you also examined the maps and profiles?

A. Yes, sir.

Q. What do you say as to the feasibility and practicability of an over-head crossing by the Lackawanna at the line which is proposed by the petitioners here, the altered line?

A. It is of course entirely practicable.

Q. The witness: With your honor's permission, I would like to make an addition to my answer as to what the objections to crossings are, and one which I have omitted to mention, which sometimes may be a very grave one; that is, the amount of interference with the business of the roads crossed; that depends very much upon the location of the crossing, whether it is near a station or remote from it, where the crossing of trains are infrequent. 850

Q. Now, sir, what do you say as to the effect, what necessary effect upon the business of the Lake Shore and the Erie Railroads at the proposed point of crossing, and in that vicinity, would be produced by a crossing at grade, as proposed by them, assuming that there are 268,707 eastward bound cars over the Lake Shore road, 269,515 westward-bound, making a grand total of 538,222 cars; and assuming that the yard of the Lake Shore is as shown upon the map marked "Exhibit No. 3," and extending northerly therefrom, and the transfer-house, and tracks and switches located substantially as shown on "Exhibit No. 3;" and the number of cars transferred from the Lake Shore to the Erie, and the Erie to the Lake Shore during that time amounted to 73,186, of which about eleven thousand were sent to the 851

852 transfer-house for transfer of freight, and the switching from the yard of the Lake Shore was done over or near the proposed point of crossing, and assuming a double crossing to be laid at the crossing of the Lackawanna, and assuming that the two tracks of the Lake Shore are its main line, over which the freight and passenger traffic all passes, and that the outgoing passenger trains cross over from the right-hand to the left-hand track at the point as shown upon "Exhibit No. 3," assuming that
 853 in addition to this freight business that I have mentioned, there are thirteen passenger trains, and from fifty-seven to sixty-two trains, including freight, passing this point, assuming that to be the traffic of last year?

A. Well, the interference, the necessary delays caused by crossing these two roads, particularly the Lake Shore at this point, would be very grave with reference to the regular trains themselves alone; it would perhaps be quite as serious as interfering with the business that
 854 is transacted between the Erie and the Lake Shore with the necessary switching, because this crossing is within the switching distance, and all the switching and exchange of trains and cars between the two roads must be over these crossings, more or less of them; all cars run from the Erie track and transferred to the Lake Shore, or from the Lake Shore to the Erie, must pass over this crossing at least three times; this crossing of the Lackawanna road is a crossing, as I understand, of their main
 855 line running into the city of Buffalo, over which their freight and passenger trains are all run; the passenger trains must, and generally are accorded the right of way, particularly over all switching business, and the switching must be suspended for some time before and after the schedule time of the crossing of passenger trains; that would very materially limit the capacity of this arrangement between the two roads to transact their transfer business; it is, in my opinion, a more objectionable

crossing than that of the Erie and Lake Shore, for the 856 reason that a great deal of the crossing of those two roads results from interchange of business, so they will of course take care that no other trains upon those roads will interfere with the transfer business; but these trains being entirely independent, having no business connection with either the Erie or Lake Shore, must be kept out of the way of, and will not be run to accommodate any transfer or switching business; it would, in my opinion, very seriously cripple the ability of these two 857 companies, to carrying on their business of transferring freight.

Q. And how with reference to the making up and dispatching of the freight trains, assuming that the switching was done in the locality as shown as to delays and detentions necessarily involved by reason of that, whether that would be serious?

A. Well, that would be serious, but is an objection common to all crossings; this is particularly objectionable 858 here on account of the interference with the making up of trains.

Q. That is what I had reference to, the making up of outgoing trains and distributing of cars from incoming trains?

A. Of course, so far as that is concerned, there would be the same objection in regard to that. As to the transfer business between the two, so far as the switching from this yard is concerned, that has to be done over this 859 crossing; the effects upon that would be quite as important, quite as serious.

Q. Wouldn't the proposed crossing, while the Lackawanna road had the target or right of way, necessarily suspend the business between the Lake Shore and the transfer-house, and the Lake Shore and the main tracks of the Erie, as well upon the easterly as the westerly side?

860 A. Yes, sir; I think it would.

Q. Whereas the crossing now of the Erie and the Lake Shore only interrupts the business upon the main lines, does it?

A. Yes, sir; that is all. Of course, when the train crosses one of these tracks it crosses all of them.

Q. Now, while the Lackawanna road had the target and the right of way, would it not necessarily at that time suspend all crossing upon the main lines, and all
861 the tracks of both the Lake Shore and the Erie during that time, the crossing of the two being so close together and so near the crossing of those two roads?

A. It would interfere with the use of all tracks upon which moving trains would have to pass this crossing.

Q. In other words, it would not be possible or practicable for the Erie to be using those tracks crossing the main line of the Lake Shore at the same time that the Lackawanna was using this crossing, by reason of their
862 being so close together here, would it?

A. Oh, certainly not; there couldn't any of these tracks be in use, either the Erie or Lake Shore, whenever the Lackawanna had the right over the crossing.

Q. So that the Lackawanna Road would suspend the operation on the Erie as well as the Lake Shore, and the Erie and the Lackawanna could not be at the same time operating its crossing?

863 A. The Erie could not any more than the Lake Shore could; there could neither of them.

By Commissioner McAlpine: Q. In fact it would suspend the traffic over all the crossings shown there?

A. Yes, sir.

By counsel, resuming: Q. There is not the length of a train between the crossing of the Erie and Lake Shore and the proposed crossing by the Lackawanna on either road, or between the Lake Shore and the Erie, is there?

A. No, sir, not a train length.

Q. The three main tracks would form a triangle and 864
along the line of the Erie would be what?

A. One hundred and fifty feet.

Q. Along the line of the Lake Shore?

A. Two hundred.

Q. Across along the Lackawanna?

A. About 150; from outside to outside of all the
tracks of the Lake Shore is only about 300 feet; the
train, if it should stop on this crossing, would cover all the
tracks.

865

By Com. Clark: Q. You mean a train on the Lacka-
wanna road?

A. I mean a train on the Lackawanna road; yes,
sir.

Q. By counsel resuming: Q. About what speed
would freight trains in good practice in railroading make
these passages at that point?

A. Well, they should not go over those crossings at a
greater speed than five or six miles an hour.

866

By Com. McAlpine: Q. That would be about five
hundred feet a minute?

A. Yes, sir; about five hundred at six miles an hour,
a little over at six miles an hour and a little less at five
miles an hour.

By counsel, resuming: Q. What do you say, taking
all these facts that have been referred to into considera-
tion, as to the effect of such a crossing paralyzing and
rendering it very difficult if not impossible to transact 867
the business of the lines at that point?

A. With the amount of business that is done I am
not prepared to say that they might not be able to do it,
but it would be at great additional expense if it could be
done at all.

Q. It would be very difficult to do it at all?

A. It would be very difficult to do it at all.

Q. With the present business?

868 A. Yes, sir ; it would depend of course upon the frequency of the trains upon the Lackawanna road, but assuming that their business would be equal to that of the Erie, running an equal number of trains, it would be very difficult for the Lake Shore and Erie to transact their business with the crossing at that place.

Q. And with double track, and with such business as would be necessarily anticipated from the construction of a double track there, would you not say that it would
869 be substantially impracticable to properly transact business at that point, with a grade crossing, and the large business that has been referred to here as the business of last year ?

A. Well, I am hardly prepared with statistics to say that it could not be done ; I don't know whether it takes all the time that they have to do the business now, how much spare time they have, of course it takes a certain time to handle a given number of cars, move them from
870 one track to another, a certain distance.

Q. Taking into consideration the fact, that there is now a crossing there by the Erie, and that the Lackawanna crossing must be used not at the same time that the Erie crossing is, but at additional, or other times, what would you say then, and assuming that the Erie crossing is now in use from a half to three quarters of the time, and that the Lackawanna must be time additional
871 to that, as you have stated, necessarily, what would you then say as to the probability of the Lake Shore being able to transact its business, the large amount of business then ?

A. I suppose that in saying that the Erie crossing is used three-fourths of the time, you mean to include all the switching business ?

Q. Yes ?

A. There would be nothing of the kind with the Lackawanna ; now, if you can, state how much of the

time is occupied by the regular trains, then a comparison 872
can be instituted, because the Lackawanna road would
probably occupy the crossing quite as much of the time
as the Erie, as it will not only block one road but both,
it doubles the interference and the delay, because both
roads must be stopped.

Q. And how would be the detentions and delays at
this point in the passage of trains and the making up of
outgoing trains, affect other trains upon the line of the
Lake Shore road? 873

A. Well, it must be taken into account of course; you
have to give allowance for trains passing this point, and
that must be taken into consideration in making up time
arranging the running of the trains all over the road.

Q. Result in the holding back of trains at other
points?

A. Yes, sir, it lengthens the time that the trains must
take in passing over the road.

Q. Not only the trains here, but at various points on
the road? 874

A. I used the term the whole length of the road be-
cause it affects the length of the time required to pass a
train over the road, if there is an obstruction at any
point.

Q. It affects it?

A. Yes, sir, of course less and less as you get away
from this point; it must affect it, either increasing the
time at other points, or otherwise affect it more or less. 875

Q. By Com. McAlpine: But at such a distance as
they could reasonably make up for this delay, at some
distance, twenty miles or fifty miles beyond that point
on the road, it would have no effect if they made up the
loss of time?

A. Oh, yes, it could be concentrated in a few miles if
they have spare time, so that they could make up the
time lost there; assuming that the speed of trains was

876 properly equalized all over the road, and they had to run it in a shorter time by reason of an obstruction near one end, they would probably split it up all over the road, instead of concentrating it within fifteen or twenty miles.

Q. Then would arrange the schedule of running time with reference to such delays as they found by experience did occur at this place, or at any other, that is your idea, is it?

877 A. Yes, sir, that is my idea.

Q. By counsel, resuming: Now at the place at the crossing on the line of the proposed alteration, which is this dotted line, would it present less difficulties or modify to some considerable extent the difficulties of a crossing at the point proposed by the Lackawanna road, assuming both crossings to be at grade?

878 A. It would not improve it much, because it would not give a train length beyond any of the switches, a train could not be drawn out of the switches without still going over this crossing.

Q. Assuming that it was an over-head crossing, what do you say as to its advantages; as an engineer, now, what would you say as to the proper and best method for constructing a crossing there, all things considered, to lay it at grade upon the proposed line, or an over-head crossing upon the proposed altered line?

879 A. Oh, an over-head crossing is always preferable.

Q. In this particular case how is it?

A. Well, here it would be especially desirable to these roads whose business would be interfered with.

Q. Taking the proposed altered place of crossing for an over-head crossing, and what are the advantages of this situation over the situation of the proposed crossing, with an over-head crossing?

A. Well, I don't know that there would be much choice between the two if the road was carried over.

Q. Taking the relations of the Erie and Lake Shore 880 tracks just at this point, all through, and probable expansions in the business, and then taking the relations at the point where the altered crossing is proposed, and are there any features which would make this a more preferable place for an over-head crossing, in reference to the tracks and switches?

A. Well, as an over-head crossing would not interfere with any of the tracks in either case, I am unable to see any particular advantage in one over the other, unless it might be in the matter of expense in making the crossing. 881

Q. As to the piers being in the way and interfering with the tracks and switches—whether it would not be more desirable to move it further from the point of the distribution of the tracks?

A. Unless it can be carried over so as not to interfere at all, it would be preferable to carry it over at the proposed altered place. 882

Q. Is it not of importance to these roads to keep, just the place of the proposed crossing, all of the territory there as free and clear as possible from piers and everything else, more so than at the place of the proposed alteration which is farther away from the converging of the tracks?

A. Yes; the construction of piers on the present line might interfere with the use of the ground by the Erie and Lake Shore for the purpose of laying side tracks. 883

Q. And in reference to that point then, an over-head crossing on the proposed alteration is an advantage?

A. In that view.

By Mr. Greene, resuming:

Q. Look at Petitioners' Exhibit No. 4, the red line being the proposed line of the Lackawanna road, and the lines "B" and "A," and tell me if you can discover any reason or necessity of the construction of both of

884 those lines "A" and "B," or whether the business of the company in and out of Buffalo might as well be transacted upon the one line, as to have the two lines as laid down on that map?

A. Well, from the knowledge I have, I cannot see any reason for building the two lines, connecting one line at each end.

Q. So far as you see or understand, the continuation of the line "A" would be all that would be necessary,
885 or the line "B;" either would be sufficient?

A. Well, either there is nothing that appears on the map, or in the location of the premises, as I saw it, to render both necessary; I think that one would do the business as well as two.

Q. And the ground passed by the line "A" is the meadow and commons there, is it not?

A. Yes, sir.

Q. This Lackawanna line through here is the main
886 line of the Lackawanna into the city of Buffalo; these main tracks of the Lake Shore are the main passenger tracks of the Lake Shore Railway between Buffalo and Chicago. Now I will ask you if good engineering requires that every device should be avoided that can be avoided in the construction of such lines, which will place the passenger business on those roads in any jeopardy?

887 A. I think it is the duty of companies and engineers to avoid, if possible, that is, within reasonable expense, to avoid grade-crossings in any such case.

Q. With particular reference to their being passenger lines?

A. Yes, sir.

Q. Is not the reason of that at the point there, the fact that there is nothing between the passengers on those roads and constant danger, except the continuance of

the vigilance of the employees of all those railroads in 888
guarding those crossings?

A. The avoidance of accidents and collisions depends solely upon the vigilance of the watchman watching the signal.

Q. This particular point, which is the conjunction of tracks used as has been testified to, would be one requiring of all the various employees connected with these crossings and the guarding of them, continuous vigilance? 889

A. Yes, sir, on the part of the watchman, the signal men and the engineers on the trains, and all parties having any control over the crossing.

Q. Now, you said that a condition of things like that should be avoided, if it can, from an engineering point of view, be done by some reasonable device; is the construction of an over-head crossing, say on the line of our proposed alteration, from an engineer's point of view, a very reasonable thing to be done to avoid the dangers of 890
that grade-crossing, in reference to the passenger business?

A. I think that it should be done; having examined the plans and 'profiles of this altered line, I think that the expense is not so great, nor do I see that there are other obstacles which should prevent the Lackawanna road from going over.

Q And would you think that that was a perfectly 891
reasonable suggestion to overcome the danger of that proposed crossing there?

A. Yes, sir, I think so.

Cross examination, by Mr. Locke :

Q. When did you reach town ?

A. Yesterday morning at eight o'clock.

Q. How did you happen to come up ?

A. I came in response to a telegraph.

892 Q. From whom ?

A. From Mr. McMillan.

Q. The attorney ?

A. Yes, sir.

Q. You were not subpœnaed ?

A. No, sir.

Q. Have you been paid your expenses ?

A. I paid my own so far.

893 Q. How high an over-head crossing is necessary, where one is required at all ?

A. It should be a clear height of nineteen feet over the track.

Q. Then if one is proposed of twenty-five feet, would you say that that was six feet in excess of what was necessary ?

A. Twenty-five feet clear height, I should certainly regard it so.

894 Q. How much usually intervenes between sub-grade and clear crossing ?

895 Mr. Milburn : I will say on that point that we propose to show before these commissioners that the putting of that crossing at the height that it is was an error, a pure mistake on the part of the engineer, who, having but a short time to get up all these maps for these crossings, and having to work through pretty much all night on this fine line profile paper, missed one of his counts ; that we have a new profile prepared here, which all the parties here will stipulate may be substituted with reference to that point. We shall also prove the error by our engineer, Mr. Haven, and the circumstances under which it happened ; and that we are perfectly willing, as we think there is power with this stipulation, to substitute this profile to cure that difficulty.

Commissioner Clark : Does the Lackawanna road consent ?

Mr. Locke : No, sir.

Mr. Milburn: I mean all the petitioners. It is over 896
our property, and we consent that the line may be
crossed at this lower elevation. I think that an error
being shown, that there is power in this proceeding, as
there is in every proceeding, to allow of its correction,
at any rate we stated that that is what we propose to do,
accompanied by our stipulation, and representing our
railroads, that we are willing to be bound by the
altered profile. We offer to allow the profile to be
modified, as shown by this route, for their benefit if they 897
desire to do it. The exact legal effect of that may
come up afterwards, but in the examinations I am merely
indicating what we are willing to do, and propose to do?

Mr. Greene: That had better be marked for identifi-
cation, and we offer to allow the profile to be modified as
shown upon that map.

Commissioner Clark: Of course the commission
would not be prepared now to make any ruling on that
one way or the other, or the effect of an error, if you 898
have made one; but I might suggest that possibly the
power may be in the court to have it modified, and not
in commission.

Mr. Milburn: It was one of the features that had
impressed me, that during the pendency of this proceed-
ing, or at sometime, we might ask either to have this
substituted by the court, or to have any decision of the
commission in that regard ratified by the court.

Mr. Locke: The counsel have stated here that the 899
proposed alteration of the route, in the words of the
statute, the proposed alteration includes both alignment
and elevation. If he can stipulate a change in the ele-
vation, I do not see why he could not come in here and
stipulate a better alignment, and he could stipulate and
change it about in such a manner that it would vitiate
every service that has been made in these proceedings.

900 Commissioner Clark: The commissioners will not rule upon this at the present time.

Mr. Locke: I understand then that the counsel here admit that the proposed alteration calls for an over-crossing four feet higher than is necessary.

Mr. Milburn: We will not admit that; we are perfectly willing to concede here, or to admit there that these gentlemen may build their line on this changed elevation. If pressed to it, we shall certainly adopt the
901 position, and show that that increase of four feet is no such defect as would deprive us of the change in this case. We should insist upon the change notwithstanding the error: but to relieve these gentlemen, if they are in a bona fide way perplexed by this point, we assure them that so far as we are concerned they can build their bridge four feet lower than it is designated. We make the offer that this profile be substituted for the other.

902 Q. How much clear room would be allowed in the proper construction of an over-crossing there, provided the sub-grade of the crossing road was put twenty-five feet and four inches above the Lake Shore rail?

A. What is the sub-grade?

Q. Don't you know what sub-grade is?

A. Yes, sir; it is the bottom of the ballast.

Q. How much is that below the rail?

A. Some engineers fix it a foot, some eighteen
903 inches; it is usually eighteen inches below the bottom of the rail.

Q. Assuming that that is the case here, how much clear room would there be under a crossing where the sub-grade was twenty-five feet and four inches above the Lake Shore rail?

A. I don't know that I get your idea now.

Q. I suppose there are some beams under that, or are there none?

A. There is no sub-grade to a bridge; when you

•
speak of a sub-grade to a bridge I don't know what you 904
mean.

Q. Your profile shows this: That the Lackawanna crossing is to be twenty-five feet and four inches above the Lake Shore rail?

A. Yes, sir, from rail to rail.

Mr. Greene: No, it is above the tie.

Q. How much clear room would that give?

A. Well, a good floor system would require not less than twenty inches. 905

Q. A foot and eight inches?

A. Yes, sir.

Q. That would leave about twenty-three feet, then?

A. Yes, sir.

Q. And you say that nineteen feet is high enough?

A. Nineteen feet is high enough.

Q. How long were you out there on that property?

A. About half an hour.

Q. Did you make any figures? 906

A. No, sir.

Q. Have you made any figures on this thing?

A. No, sir.

Q. Have you made any estimate of the cost of building upon the altered route according to the map and profile?

A. I have made none myself.

Q. Do you know how far the elevation is extended to the east and west of the Lake Shore track? 907

A. I can't tell you now; the only information that I have is from the profile that you have before you.

Q. I understood you to say at the commencement of your examination, among the objections to a grade crossing, that the first and great objection was the danger of collision?

A. Yes, sir.

Q. Of all the evils connected with a grade crossing,

908 what proportion should you say were covered by that objection?

A. It is an objection that cannot be measured by money, because it involves the loss of human life.

Q. Can't you express it in percentage, the danger?

A. No, sir.

Q. You couldn't say whether it was fifty, or seventy-five or ninety per cent., as Mr. Chanute says?

A. One is the danger involving human life, the other
909 is the danger in delay, involving dollars and cents.

Q. You were at some time connected with the New York Central road, you say?

A. Yes, sir.

Q. Do you know that they have a grade crossing where the Philadelphia road comes in contact with them in this city?

A. Yes, sir; they have one.

Q. Did you ever know of an accident at that place?

910 A. No, sir.

Q. Do you know something about the Grand Central Depot in New York?

A. Yes, sir.

Q. Does not every train that comes out of that depot cross the tracks upon which every ingoing train reaches the depot?

A. All except the local train that passes through the
911 most easterly track.

Q. Barring that one train there is a grade-crossing at what street?

A. Well, they pass two or three blocks, I think, before they get over all of them.

Q. Well, it is Fiftieth street, is it not?

A. Yes, sir.

Q. So that there is a grade-crossing over which every train entering the Grand Central Depot has to pass the track of every outgoing train?

A. Yes, sir. 912

Q. How often do trains leave the Grand Central Depot?

A. I don't recall, at present; they are leaving almost continually.

Q. And coming in almost continually, are they not?

A. Yes, sir.

Q. There is no one spot in America where so many trains enter and leave within a given number of hours as in the Grand Central Depot, is there? 913

A. I am not prepared to say that.

Q. Do you know of any other spot?

A. I can't mention one now.

Q. Now, should you not say that the danger of accidents at that grade-crossing there was about as severe as it could be in any given case?

A. There is one thing in favor of it, they are all under the control of the New York Central and Hudson River Railroad Company. 914

Q. Of one dispatcher?

A. Yes, sir.

Q. And those trains there, so far as the crossing is concerned, are under the control of one target man, are they not?

A. Yes, sir.

Q. So that these are as much under the control of one man as at the Grand Central Depot? 915

A. Yes, sir.

Q. The trouble is not with the man that is in control; it is not the risk that he will make a mistake, but the risk that some train employee will make a mistake and not follow orders; there is where the risk of accidents comes in, is it not?

A. Yes, sir.

Q. How long were you connected with the New York Central road as engineer?

916 A. I think in all about eighteen years.

Q. Did you have a collision at any grade-crossing during that time?

A. I don't recall any.

Q. You know that every railroad company in the State of New York is bound to report the occasion, cause and particulars of every accident happening on its road, to the State engineer, do you not?

A. Yes, sir.

917 Q. Now, I have such a book here; and what would you say in regard to the danger of a grade crossing, if it appeared that in the year 1878, there never had been one accident at a grade crossing in the State of New York?

Mr. Greene: Unless the counsel expects to prove that there never has an accident occurred at grade-crossing, I object to the evidence.

918 Q. Can you state one case where an accident has occurred at a grade-crossing?

A. Oh, yes, sir.

Q. Give me one?

A. Some years ago there was a very serious one at Alliance, in Ohio; that was the Fort Wayne road.

Q. Crossing what road?

A. I don't recall what the other road is.

Q. How long ago was that?

919 A. Quite a number of years ago.

Q. How many?

A. Fifteen or twenty.

Q. Can you mention any since?

A. Yes, sir; there was one; a very serious one occurred down east, on an eastern railway; I believe in Maine.

Q. When was that?

A. Five or six years ago.

Q. Can you mention any other?

A. Those are the two that come to my mind now. 920

Q. So that, of all the grade-crossings in this country—and I suppose ninety-nine out of every hundred crossings in this country are grade-crossings, are they not?

A. I don't think it is so large a proportion as that.

Q. Over four-fifths of them are, are there not?

A. Three-quarters; I should say.

Q. So that out of all the crossings in this country, of which three-fourths are grade-crossings, you are unable to recall more than two accidents within the last fifteen years? 921

A. These two are recalled because they involved so great a loss of life.

Q. Those two are the only ones that you are able to recall?

A. Yes, sir.

Q. Now, are you familiar with the alignment of the the Lake Shore road? 922

A. Not very.

Q. You don't know about its grade crossings?

A. No, sir; not many of them.

Q. You know it has a crossing out at the Buffalo Creek road? 923

A. Yes, sir.

Q. Did you go out and see that?

A. No, sir; I will state that another instance comes to my mind of an accident at a grade crossing; two trains that came into contact at the Hoosac crossing. 923

Q. How long ago was that?

A. That was last year.

Q. Now, those crossings in front of the New York Central depot, down there, are at an angle, are they not, and a very acute angle?

A. By switches; they run from one track into another.

924 Q. Is there not more danger in such cases as that, than there would be if a crossing were at right angles?

A. Inasmuch as it takes more time to get across.

Q. The track is so much longer obstructed, I understood you to say on your direct examination, that a double track crossing made the matter still worse, so far as danger from accident was concerned, the crossing with a double track?

A. I don't recollect of saying so.

925 Q. Wouldn't that very much lessen the danger of accident?

A. I don't know that it would effect the danger of accident.

Q. Would it affect the delays any?

A. I don't see that it would effect the delay, for just so many trains would have to cross.

Q. With a double track two could pass at the same time?

926 A. Yes, sir; they might do that; they might pass simultaneously.

Q. Now, you spoke about the trouble here in this case, because of the transfers from the Erie to the Lake Shore?

A. Yes, sir.

927 Q. And in your answers to the questions you assumed that the Lackawanna would not require any connection with the Lake Shore, and was not to have any, because it had no running arrangement with the Lake Shore, did you not?

A. That was my understanding.

Q. Suppose that the intesests of all parties were here to be consulted, the interests of the Lackawanna as much as the Lake Shore, and they desired to avail themselves of the provisions of the statute which requires the Lake Shore to accept freight from them, upon the same terms that it does from any other company. Is it

not very desirable that they should have a grade-cross- 928
ing at that point, or that their track should be down
at that point, in order to enable them to make a trans-
fer with the Lake Shore?

A. Well, I can't answer that question till I see the
plan and arrangement of tracks.

Q. Assuming that they do want to avail themselves
of the provisions of the statute, and have an arrange-
ment with the Lake Shore, is it not quite important
that they should not be fifteen or twenty feet up at that 929
point?

A. If they want to make connection at that point;
they cannot make connection except at grade.

Q. Suppose the Lackawanna should run one train a
day over that crossing would it seriously interfere with
the business of the Lake Shore Road?

A. Well, it would be reduced a minimum.

Q. Suppose the commissioners who settle the points
and manner of crossing give the Lake Shore the right of 930
way over the Lackawanna and the Erie the right of way
over the Lackawanna in all case, and compel the
Lackawanna to cross when they are not using the road,
then what is the extent of the injury involved?

A. If the Lake Shore and the Erie in the transaction
of their business, have any time to give, and an arrange-
ment can be made of that kind, it certainly would not
interfere with the transaction of their business.

Q. Doesn't it follow from that that the injury to be
sustained by the Lake Shore depends very largely upon
the manner in which this crossing is to be used? 931

A. Oh, certainly.

Q. I suppose if you were a commissioner to settle the
points and manner of crossing, that you could make such
regulations with reference to the Lackawanna trains as
to very much reduce the danger of accidents and very

932 much reduce the cost of delays sustained by the Lake Shore Road, could you not?

A. Well, I have been a commissioner in such case and did not understand that it was in our province to regulate the operating of the road.

Q. How much business did you assume for the purposes of your statement here that the Lackawanna was going to do?

A. Well, I stated upon the assumption that it did a
933 business equal to the Erie at this point.

Q. You assumed that arbitrarily?

A. Yes, sir.

Q. You assumed that this was the main line of the Lackawanna too, did you not?

A. The main line into Buffalo for the city business, simply the city and lake business.

Q. You assumed everything that they were going to bring here to go west by water would go by this track?

934 A. I assumed that all the business coming to Buffalo to stop or to be transshipped here would come over this line.

Q. Assuming that it is not proposed to transfer over this line anything to go by water?

A. Well, the interference would be in proportion to the amount of business done.

Q. Well, the substance of your whole review of this matter is that the method in which the crossing is to be
935 used, is an exceedingly important element in deciding the amount of injury sustained by reason of the crossing?

A. No doubt of that.

Q. No; it is possible to re-arrange tracks, is it not, without a great deal of trouble?

A. Yes, sir; whether you can arrange them without a great deal of trouble depends on the situation of the land and the exigencies of the business.

Q. How much land there is and whether it is avail-

able for such purposes; whether other tracks of other 936 companies crowd in so that no land can be obtained?

Mr. Greene: Q. You have proved that by one witness; we shall not give any evidence on that subject.

Q. I understood you to testify that practically, so far as a grade-crossing was concerned, there was very little difference between a grade-crossing at the proposed Lackawanna or at the proposed altered point of crossing?

A. I do not see the difference.

Q. And that so far as an over-crossing is concerned 937 all the benefits would be derived from a crossing at the proposed point of crossing; that there would be if it was at the proposed altered crossing?

A. I said that the only difference consisted in the obstruction of the ground by piers that would be erected.

Q. That would occur wherever a crossing was put in, would it not?

A. In one place it would interfere with more switches.

Q. I suppose if you were to cross between here and 938 Dunkirk that piers might prevent the construction of switches at some future time?

A. Yes, sir.

Q. So far as the situation is concerned down there to-day, not knowing what plans these gentlemen may have in the future, there is really no difference between the two places, as to grade-crossings or as to over-crossings, which amounts to a practical difference? 939

A. I see no material difference.

Q. What do you say as to the desirability, from an engineering standpoint, of having tangents as distinguished from curves?

A. I always prefer tangents to curves.

Q. What do you think of reversed curves as to their desirability?

A. Less desirable than simple curves.

940 Q. Now, what do you think of reverse curves on an embankment or trustle?

A. Well, being on an embankment it does not add to the objections to a reverse curve.

Q. How is it upon a trestle?

A. On a trestle it might add; it requires a stiffer trestle.

Q. It gives a blow to the trestle; now, if you were going as an engineer in charge to lay out a road leading
941 from the Buffalo River, across the Lake Shore road, you would, would you not, try to lay out a tangent line?

A. Try to avoid curves so far as practicable.

Q. And you would try still more to avoid reverse curves, would you not?

A. Certainly.

Q. You spoke of crossing frogs, and the injury to car wheels, and rolling stock that comes from the crossing
942 frogs, do they produce much more injury than switch points?

A. Oh, yes.

Q. A great deal worse?

A. Yes, sir; that is where they cross nearly at right angles as this does.

Q. Are they worse if they cross at right angles than if the crossing is at an acute angle?

A. Yes, sir.

943 Q. Why so?

A. Because the long point of one rail will pass the long point of another, and if it is acute enough, it will give a continuous bearing for the wheel.

Q. So that a track crossing at right angles tends more to break car-wheels?

A. Yes, sir.

Q. I suppose that that tendency is a thing that can be computed in dollars and cents, is it not, to a certain extent?

A. Well, I am not in possession of data to compute it. 944

Q. It is within the points of mathematical science, is it not?

A. I think that it would be necessary to make some experiments.

Q. Did you ever make any experiments about wheels broken at crossing frogs?

A. No, sir.

Q. Did you ever see a wheel that was broken at a crossing frog? 945

A. I can't say that I have.

Q. You are speaking then simply from a theoretical standpoint, that any blow upon a wheel tends to break it?

A. Yes, sir; they are generally broken by blows; they must be.

Q. I suppose car-wheels break on straight roads—don't they on plain roads?

A. I don't know a straight road without crossings and frogs. 946

Q. Didn't you ever have car-wheels break in winter and you couldn't tell what the matter was?

A. Well, you can't always tell the direct cause if they break in the winter; I have no doubt from the rigidity of the road-bed, and its being thrown out of line, and bad joints and crossing frogs.

Q. Every application of a brake tends to wear out a car-wheel, does it not? 947

A. Yes, sir.

Q. And a steep grade, requiring as it does, the application of brakes to control the train tends to wear out car-wheels?

A. Yes, sir.

Q. That accounts for the great expense of car-wheels on the Boston and Albany, does it not? Haven't you

948 heard anything about the cost from the wear and tear of car-wheels on that road ?

A. I should think likely it might on that road where they have to slide the wheels on the rails.

Q. It would follow from that, wouldn't it, that an over-crossing here which would require a grade of sixty-two feet to the mile, would tend to wear out the wheels of the Lackawanna road from the application of the brakes necessary to control the train going down that
949 grade ?

A. If it was necessary to hold the train by the brakes going down the grade.

Q. Do they usually let them kitter as they want to ?

A. It depends on the length of the grade.

Q. Take a grade of sixty feet to the mile, for two thousand feet, going right down to Louisiana street in the city of Buffalo, right into the heart of the city, you would have to hold your train every minute and keep it
950 under control ?

A. Keep it under control it would not be necessary to slide the wheels.

Q. So running a train off from that trestle, down a grade sixty feet to the mile, right into the heart of the city of Buffalo, you would have to hold it by brakes, control it by brakes ?

A. Yes, sir ; it would be necessary to apply brakes.

951 Q. Which would wear out the car-wheels the most, do you think, such an application of the brakes as that, or the crossing at a very slow rate of speed of the crossing frogs, which wheels would be injured the most ; the Lackawanna wheels, provided it was an over-crossing and the brake had to control them going down that steep grade of which I speak, or the Lake Shore wheels from simply crossing two crossing frogs properly put in, if it was a grade crossing ?

A. The crossing frogs would be more injurious for

the reason that I do not think it would be necessary to 952
slide the wheels.

Q. If a crossing frog is properly put in, is there much
of a blow?

A. The blow in the first place, as I said, results from
the opening of the rails.

Q. How wide is that opening?

A. From two inches to two and one-half.

Q. What is the diameter of a car-wheel?

A. Thirty-eight inches. 953

Q. Do you mean to say that that wheel would drop
down into an opening of two inches?

A. It would not, the whole wheel would not; but
there is a drop to a certain extent, which creates a blow;
but a thirty-eight inch wheel can't drop into a two-inch
aperture.

Q. How much of a drop is there, how much of a
vertical drop?

A. It is very small, but it is enough to make a blow. 954

Q. You can't figure it unless you take the French
system to do it, can you, centimetres or millimetres?

A. Oh, yes, sir; you are sensible of it in going over
a frog.

Q. Referring to the Grand Central crossings, do you
know what the grade is into that depot?

A. No, sir; I do not.

Q. Is it not a very steep grade?

A. I don't know anything about what the grade is. 955

Q. Take it from 70th street down to a point beyond
those crossings, is it not over sixty feet to the mile?

A. I should think not, but still I have no information.

Q. Isn't it sixty feet to the mile?

A. I can't say.

Q. We have a telegram that it is sixty feet to the
mile?

A. It may be.

956 Q. If the grade were sixty feet to the mile, wouldn't that add seriously to the difficulties of a grade-crossing at that point; wouldn't the presence of a grade at the very point of crossing add seriously to the difficulty of crossing, in not being able to control your trains?

A. There is no difficulty in controlling a train going down sixty feet to the mile.

Q. So that that would not add to the difficulties of the case at all?

957 A. If a man did not know the grade was there he might; but if he knows the grade is there he can control the train well enough; the New York Central has a grade of eighty feet to the mile going out of Albany.

Re-direct examination, by Mr. Greene:

958 Q. Take the injury to the Lackawanna wheels by crossing the seven or ten crossing-plates, as compared with the injury to the wheels by the necessary application of brakes in going down the grade he suggested, which would be the greater?

A. I think the injury from the crossing-plates would be greater.

Q. There is no injury to the wheel by application of the brake, unless they are set up so as to stop the revolution of the wheel?

A. No, sir.

959 Q. Which is seldom done, and would not be proper on a grade of sixty feet to the mile?

A. It is unnecessary to stop the wheels at that grade; but I may be understood as saying that the wheel would not be worn out by the application of the brakes within the ordinary life of a car-wheel; it would not break the wheel.

Q. Or produce anything that would result in an accident as a thump at the crossing-plate would?

A. I think it is the inequalities of the track that 960
cause the breaks.

Q. A reverse curve of only three degrees on level
trestle, you would not regard as a very serious thing,
would you, where the curve was for a short distance; a
radius of three degrees only, and on a level, would you
regard that as a matter of any particular consequence?

A. Well, the curve is not a sharp one, of course.

Q. It would present no very serious objection to an
over-head crossing as compared with the objections to a 961
grade-crossing at that point?

A. It would require a little stiffer bracing of the
trestle work.

Q. A little additional bracing of the trestle would
obviate any difficulty that might occur from it?

A. Yes, sir.

Q. Is there any serious objection to it if it is neces-
sary to avoid the grade-crossing; would it be of any
considerable consequence as compared with the objection 962
to a grade-crossing at that point?

A. I think it is less objectionable than a grade-cross-
ing; curves are objectionable, however.

Q. In your statement as to the differences in these,
the one proposed by them and the one proposed by us,
and the objections pertaining to each, you only take into
consideration the actual traffic over the tracks as shown
upon the map, do you, and not anything in connection 963
with adjacent lands owned by the Lake Shore Road?

A. I didn't take anything of the kind into account;
I didn't know anything about that.

Q. And the fact that the Lake Shore Company owned
this track right adjacent to their tracks bordered in blue
on Exhibit "No. 2," the fact that their proposed route
cuts that right in two near the center, and that the pro-
posed altered route runs outside of it and along that
street, might very materially affect the question as to the

964 desirability of the proposed altered line over the proposed line, wouldn't it?

A. The ownership of that land would not, unless it can be shown that you need it for railroad purposes.

Q. I say it might?

A. Well, of course it might.

Q. Avoiding the occupation of that land owned by the company might materially affect the question as to the desirability of the one route over the other, depending upon the use to which that might be applied?

A. Entirely depending upon that.

Q. And that is something that you did not take into consideration?

A. The ownership of the land I did not take into consideration at all.

Q. Of any lands?

A. No, sir.

966 Commissioner McAlpine: Is that to be taken into consideration in reference to the crossing at grade, or an elevated crossing?

Mr. Greene, resuming: I said the proposed alteration.

Q. Might there not be a material difference depending upon the use to which this real estate might be applied, assuming the proposed line by them to be at grade, if it is to be by a trestle?

967 A. My answer was given in reference to the desirability of the two lines for elevated roads, in both cases to be carried over without reference to the ownership of the land; the only question that arises is as to whether the building of the road on their present line would interfere with the use of the land which the Lake Shore owns, for railroad purposes.

Q. Your answer was independent of any question of ownership or occupancy of adjacent lands?

A. Yes, sir, entirely without reference to the owner- 968
ship of lands.

Q. Have not engineers for several years past become more thoroughly satisfied with the unadvisability of putting in these grade crossings, and tending more to favor over-crossings for through lines?

A. As far as my acquaintance goes that is the case.

Q. And the grade crossings which you speak of, upon the Central road, with which you are familiar, were most, if not all, put in quite a good many years ago? 969

A. Most of them.

Q. And a good many of them at points where the road crossing the Central does but comparatively little business over its road?

A. There are but few grade crossings on the New York Central.

Q. And are there any on it to your knowledge that present any such serious objections or difficulties as this proposed grade crossing here? 970

A. No, sir, not in the way of interference with business.

Q. The counsel has taken us down to the Grand Central depot; are you familiar with the manner of controlling and operating trains as they enter and depart from that depot?

A. Well, not particularly in detail; I know generally how it is done.

Q. There is a station some distance from the depot 971
above, is there not?

A. Yes, sir.

Q. In communication with the one at the depot, and it is by communication between them that the running of trains is controlled?

A. I will state, perhaps, for the information of some of the commission—perhaps the engineer is well aware of it—that all that crossing is done by switches; there

972 are no crossing plates, and that they have a system of electrical signals and lock switches, which render a collision impossible ; a switch cannot be placed wrong, and at the same time have the signal wrong ; the signal cannot be changed except when the switches are changed, so that an accident is utterly impossible, unless the engineer entirely ignores the signals ; there can be no mistaking signals ; a switch cannot be placed wrong as regards the signals.

973 Q. Such an application will be impracticable at this point ?

A. It could not be done right here ; the crossing there is entirely by switches, and not by crossing-plates as it is here.

Re-cross examination, by Mr. Locke :

Q. There are here no switches to be misplaced at this point ?

974 A. No, sir.

Q. So that that is all eliminated from the trouble here ?

A. It renders a collision impossible there, for the reason that they cannot get on the wrong track.

Q. They don't want to get on the wrong track, but another train could be coming out and trying to cross at the same time an incoming train was crossing, couldn't it ?

975 A. They couldn't get out ; they only go by signals, and the signals would never bring two trains together.

Q. Suppose the signal man should make a mistake ?

A. He can't make a mistake.

Q. Suppose he forgets to stop a train and hold it there ?

A. He does all that a signal man can do ; the trains are notified by signals, and he cannot change the signal unless the switch is turned.

Q. Have you ever been to Elizabeth, N. J. ? 976

A. Yes, sir.

Q. Do you remember a grade crossing there ?

A. Yes, sir ; very well.

Q. Do you remember that the Jersey Central and the Pennsylvania Railroad pass there ?

A. Yes, sir.

Q. Any other road ?

A. Those are the only two, I believe.

Q. Do you know the extent of the traffic on those 977 roads ?

A. Something of it.

Q. Do you know the manner in which the crossing is made at those points ?

A. Yes, sir.

Q. There are two double track roads, are there not ?

A. I believe they are both of them double track roads.

Q. And all the through business of both roads, all 978 the business of both roads goes over that crossing ?

A. Yes, sir.

Q. All the coal business of the Jersey Central Road ?

A. Yes, sir.

Q. An immense tonnage ; and all the business of the Pennsylvania Railroad between Philadelphia and New York ?

A. Yes, sir.

Q. Conceding that the alignment of the Lackawanna 979 route as adopted by it as a tangent to the east and to the west of the Lake Shore track, and that the proposed alteration embraces a line with curves, and reversed curves occurring upon comparatively steep grades, would you not say that the Lackawanna route is better than the proposed altered route, in case both are to be of an over-crossing, taking the interests of all the parties to the controversy into consideration ?

980 A. The only party to be affected would be the Lackawanna road; they would only be affected by the undesirability of having a curve; it would make no difference to the Erie or Lake Shore so far as this curve is concerned.

Q. Taking the interest of the Lackawanna and the interest of the Lake Shore together, and is not the Lackawanna route the best route, assuming that they are to be over-crossings?

981 A. So far as the Lake Shore and Erie is concerned, the Lake Shore particularly as the owner of this land, and both as desiring to occupy this triangle, it would be better for them that the proposed altered line should be adopted.

Q. Now, that depends a little upon their right to occupy that triangle, doesn't it?—depends a little upon the use to which this vacant land can be put, does it not?—and their necessity for this land; it depends upon a great
982 many things, doesn't it?

A. It depends upon their wish to use it for railroad purposes?

Q. Suppose they never should want to use it for railroad purposes—any of this adjacent land—would you not say that the Lackawanna route was the better route for the interests of both parties than the altered route?

A. If they can never use this, or never will use it, it
983 would be desirable for the Delaware and Lackawanna; but, as I said before, it would be of no advantage to the Lake Shore or Erie Railroad. You asked me if it was for the interests of all parties.

Q. From an engineering point of view simply, connected with those three roads, would you not consider that the Lackawanna road, having a tangent for such a distance there, some two thousand feet, was preferable to the proposed route, with its curve, if both are to be an over-crossing?

A. That is about the same question as taking into 984 consideration all parties.

Q. I am talking about an engineering point of view?

A. From the point of view of the Lackawanna Railroad Company, I should say it would be more desirable to have it there.

Re-direct examination, by Mr. Milburn :

Q. In regard to this illustration that was put to you by Mr. Locke, and the lines entering the Grand Central 985 depot, isn't that a crossing by a crossing frog, and are not the crossings made there entirely by switches?—when the train has the use of one line, the switch is against any other line?

A. Yes, sir.

Q. And the signal would be against any other line?

A. Yes, sir.

Q. Suppose the Lackawanna gets the target for this crossing, and getting it, has trains enough to keep it 986 occupied for fifteen or twenty minutes, is not that an entirely additional cause of delay to anything existing there to-day?

A. Certainly.

Q. So that even if the Erie and Lake Shore had the complete right of way to the use of the crossing, still when the Lackawanna gets the crossing, and is using it, then you have an additional interference and cause of 987 delay to the other two roads?

A. The answer I gave to that question was that if the Lake Shore and the Erie had any time to spare in transacting their business, and had full control of the right of way, the use of the Lackawanna might not interfere; if they had no time to spare, it would interfere.

Q. But the business of the Erie and Lake Shore at that point is distributed over the whole of the day?

A. Yes, sir.

988 Q. It is not possible to arrange that during so many hours of the day one company could be working, and during other hours of the day another company could be working?

A. My answer was based on the assumption that the Erie and Lake Shore had complete control of the right of way, and the Lackawanna could only use it by their permission and at their convenience.

Q. And still there would be the delay and inconvenience that you testified to?

A. It would, unless the Lake Shore and Erie had time to give them.

Q. But, if this to-day is a pretty busy crossing all over the day, the business being distributed over the whole twenty-four hours, why then this crossing of the Lackawanna, no matter what the superior rights may be of the Erie and Lake Shore, must be an additional cause of delay, to the extent that they have the control of that crossing?

A. To look at it from a practical, business point of view, if they have a grade-crossing there, there must be mutual concessions to both sides, and the use of these tracks must be yielded for a sufficient length of time for the Delaware and Lackawanna Railroad to transact their business in crossing at such times as the exigencies of their business might require. That would undoubtedly tend to limit the time in which the Erie and Lake Shore had to transact their business. It is necessarily so.

By Com. Clark: Q. You have given us the rate of speed with which the freight trains would ordinarily pass this point in controversy. Will you please to give us the rate of speed for passenger trains, assuming that each passenger train must stop at the crossing, under good railroad management, as was assumed in the other question?

A. They should not pass at much greater speed than

the freight trains, nor would they be likely to if they 992 were obliged to stop within a short distance of the crossing, they would not get up headway.

Q. Do you assume also in your answer that the freight trains stop at the crossings?

A. Not necessarily ; but they should cross, not at a greater rate of speed than I have mentioned.

Q. Assuming that they have all to stop?

A. Then they would not be likely to pass at a much higher rate of speed anyway, they should not ; and if 993 they are obliged to stop there would be very little danger of their crossing at a much higher rate of speed ; they could not get under way.

Q. You have spoken, in your second objection to crossings, of the injury which the car wheels and the running-gear would receive ; state whether that depends or not upon the rate of speed at which the car passes?

A. It does.

Q. And at the rate of speed which you have named 994 here. Are we to understand that your opinion is it would be a matter of serious import the injury which they would receive, the cars and running-gear?

A. Even at six miles an hour the blow would be much less than fifteen miles an hour, but nevertheless it would be considerable and desirable to be avoided.

By Com. McAlpine: Q. The effect of the blow is apparently as the weight on the wheel by the square of 995 the velocity?

A. About that, yes, sir.

Q. In cold weather there is an opening at every rail-joint almost?

A. Yes, sir.

Q. There a shrinkage of the rail and a consequent opening ; how much does that amount to ; in other words, in laying your track how much do you leave for that expansion and contraction?

996 A. The allowance for laying depends on the temperature.

Q. If you are laying it at very cold weather, thermometer ten degrees below zero, or anything you are a mind to, you have some rules by which you lay the ends of the rails apart?

A. Well, a quarter of an inch is the extreme expansion.

Q. But rails crawl on the track, and oftentimes a
997 quarter of an inch is increased considerably?

A. If the fishes are properly punched it is held when it gets to this maximum opening that is allowed; they are punched so as to allow for just about that movement required by changes in temperature.

Q. The speed on other parts of the track is thirty to forty miles an hour on the fastest trains?

A. The passenger trains, yes, sir, the express trains.

Q. Then by this law, the weight on the wheel, com-
998 paring it in crossing these openings at the crossing of one rail with another, two inches or two and one-half that you speak of, the effect of the blow is the weight on the wheel by the square of the velocity, and if the velocity is limited in passing the crossing, and trains on other parts of the road where an interval of a quarter of an inch occurs, run you may say thirty-six miles an hour, it would be as one to six in that case, and the effect is as one to thirty-six?

999 A. You perhaps overlook the fact that the amount of the fall of the wheel is in proportion to the square of the opening, so that that would more than balance.

Q. The effect then in cold weather, cold enough to make a quarter of an inch opening, the effect of the blow upon crossing such openings is not nearly so much as it is at these crossings?

A. No, sir.

Q. Could you form an off-hand opinion relatively of

how much you find the ends of all rails battered be- 1000
cause of that blow?

A. Yes, sir.

Q. And you find at these openings in the crossings
the same battering?

A. Yes, sir; even a very small opening in the rail.
The ordinary joint-opening in cold weather produces a
battering of the rail to some extent.

Q. Could you form an opinion of the relative injuri-
ous effects by those two openings, any off-hand opinion? 1001

A. It would be better in this consideration to take
the average of one-eighth of an inch for the ordinary
joint, the extreme opening is only for a short time, of
course, that it is a quarter of an inch.

Q. If you please, you may answer the question in
that way, or just as you desire?

A. Well, the fall would be not more than one two-
hundredths of that of an opening of two inches.

By Mr. Locke: Q. Then does it follow that passing 1002
over two hundred rails, the aggregate pounding would
be as much as it would be at one of these crossing frogs?

A. No, sir, because the force of the blow is as the
square of the fall.

By Com. McAlpine: Q. I think perhaps a more
valuable answer would be from your observations on
railroads; how much more are the rails battered, how
much quicker are they worn out at these open cuts than
they are on the main track? 1003

A. The crossing plates, where they are made of the
same material, the wear would be ten times as much.

Q. The crossing plate wears out ten times as fast?

A. Yes, sir.

Q. I assume a speed of thirty-six miles an hour on
the rail elsewhere, and six miles an hour on this cross-
ing, and then the crossing plate will wear out ten times
as fast as the rail?

1004 A. Yes, sir.

By Mr. Locke: Q. Is there any blow received at passing a common switch?

A. Not a well laid, well constructed switch.

Q. What produces this sensation that we have in riding in a car?

A. Well, they are not properly aligned up, that is generally a lateral motion.

Q. Is not that the result of a blow?

1005 A. Yes, sir, there is a lateral blow, that is also injurious.

Q. That you find at every switch, do you not?

A. Yes, sir.

By Com. McAlpine: Q. Do crossings at right angles produce the greatest effect—injury, and less as the angle is more acute?

A. Yes, sir, I answered that question to Mr. Locke.

1006 Q. From your knowledge and experience have you seen tried, gates across the tracks, operated by machinery, connecting those with the two crossing rods, so that one of them must be shut by the opening of the other, sometimes called automatic?

A. No, sir, I don't know as I have.

1007 Q. As a provision against the serious accidents to passengers, it has been used on the continent, they have at a distance of half a mile, a bar that is swung across the track that is occupied, or to be occupied, a train cannot pass that bar, at least it gives a signal to the engineer, is it in use in this country?

A. I have never seen anything of the kind, I suppose that is a caution to the engineer, not enough to throw the train off, but sufficient to let him know that he is going wrong.

Q. Yes, they have some such device on the road about Boston, and other places, and New England, for common crossings?

A. Yes, sir, I have seen those, they first appeared at 1008 the Centennial, I believe.

Q. I think you said that the necessary headway, clearance between two roads crossing with an over-head crossing, is nineteen feet?

A. Nineteen feet have been considered, and is now, to be sufficient.

Q. And you also said that twenty inches were necessary in addition to that, in other words, it would make it twenty feet and eight inches between the top of one 1009 rail and the top of another?

A. Twenty feet and eight inches, yes, sir.

Q. Is there any device which you know that has been used successfully, so that twenty inches is lessened, or can be lessened?

A. Well, perhaps not a good stiff floor; I have had a floor with not more than an inch less than that, and twenty-one or twenty-two inches is better; but it can be reduced to twenty inches without difficulty. 1010

By Mr. Milburn: Q. What is the clearance there at the Lake Shore crossing, the altered crossing by that profile?

Revised profile shown witness.

A. The clearance is twenty feet and eight inches, I should say twenty feet and nine-tenths.

Q. That is only allowing twenty inches for the flooring? 1011

A. That is only allowing twenty inches for the flooring.

Q. Is it not usual in constructing such work, to give greater depth of flooring than that?

A. Oh, I should, unless limited.

Q. What would you say would be reasonable, proper flooring?

A. It depends on the length of panel, the style of bridge as built.

1012 Q. A suitable bridge for a crossing, having a span that this necessarily would have ?

A. Two feet is enough.

By Com. McAlpine: Q. You would prefer to make a deeper floor ?

A. Yes, sir.

Q. How much deeper ; in getting up a plan for this crossing, you would get up one that would keep the grade as low as possible ?

1013 A. Yes, sir, you wouldn't want more than two feet depth of floor.

Q. Then under no circumstance that would be likely to occur at this place. Would you think it necessary to go from the top of the rail of that lower road to the top of the rail of the upper road more than twenty-one feet, four inches ?

A. No, sir ; aiming to keep the thickness of the floor from the top of the rail to the under side of the bridge,
1014 as small as possible, to be without interfering with the efficiency or stiffness of the floor. It could be reduced to twenty inches, but better to have twenty-four.

Q. If you will notice those two roads that are to be crossed at the same place, the grades are at different elevations ? Both have been used for a good many years, and therefore either one of them may be taken, I suppose, as a suitable elevation, that is, an elevation
1015 sufficient above the ground and above the water at that place, what is the difference, from that profile, between the two tracks ?

A. About two feet.

Q. No, it is more, is it not ?

A. Two feet and one-tenth.

Q. The Erie track is two-feet and one-tenth lower than the Lake Shore track ?

A. Yes, sir.

Q. Under the circumstances of this case, in requir-

ing the Lackawanna road to make an over-head cross- 1016
ing, is it reasonable to ask them to go more than to
give the clearance which you have given above the Erie
track?

A. I would not like to advise the making of the
clearance less than nineteen feet over the highest track,
that is, over the Lake Shore; that would make it twenty-
one feet over the Erie.

By Mr. Locke: Q. How high is the top of the stack
of the ordinary thirty-ton Locomotive? 1017

A. I haven't measured them lately; but I think not
over fifteen feet.

Q. How high is the top of a freight car?

A. The ordinary freight car is twelve feet.

Q. Twelve feet to the bottom of the wheel?

A. Yes, sir; from the top of the car; the board.

Q. The only object of elevating a bridge is to get it
high enough so that the brakemen on the cars won't
get hurt, is it not? 1018

A. Yes, sir; otherwise the height of the smoke-stack
would be the limit; some freight cars are made con-
siderably higher than others; hay cars are made con-
siderably larger.

Q. They have those hay cars on the Central?

A. Yes, sir.

Q. These same cars that go over the Lake Shore run
over the Central? 1019

A. Yes, sir.

Q. And all the cars that come over the Lake Shore
run under the Erie crossing of the Central?

A. Yes, sir.

Q. That is proved to be nineteen feet here?

A. Yes, sir.

By Mr. Milburn: Q. Would it make any difference
at this point that the Lake Shore road is on a down
grade, and that there would be improvements, altera-

1020 tions, or leveling up in the future, down grade from the bridge?

A. Certainly; if that can be done the bridge should be raised.

Q. Taking that grade as it is, would it be good engineering to have more allowance for clearance in such a case, in view of the correction of that grade?

A. It could hardly require them to provide for all the possible improvements that the Lake Shore or Erie
1021 may make; if this is to be done in any reasonable time, it ought to be provided for in the construction of the crossing road.

Q. If it were contemplated by the Lake Shore to lessen the grade there by levelling up, that would require a larger clearance at this point?

A. Yes, sir.

By Commissioner McAlpine: Q. The tracks of the Lake Shore road and the Erie road must necessarily
1022 be at the same level at these several points where they join and cross?

A. Where they connect; yes, sir.

Q. Where they connect and cross?

A. Yes, sir.

By Mr. Locke: Q. One extra foot in the elevation of that road for the distance of a thousand feet would add very largely to the construction of the Lackawanna road,
1023 would it not?

A. The raising of that road-bed one foot?

Q. Yes, the raising of this bridge one foot, and the consequent raising of the road-bed, or increase of grade?

A. It would not be a very large percentage across the road; it would be a foot at that point, and run out to zero at the end; that would increase the grade slightly.

Q. It would increase the grades?

A. Yes, sir.

Q. If you increase an embankment one foot in height, 1024
do you not have to widen it at the bottom?

A. Oh, yes; it would be like adding a foot to the
bottom width, but not to the top width, that is virtually
that.

Q. I suppose an embankment sixteen feet high costs
more than one-fifteenth in addition to an embankment
fifteen feet high?

A. Yes, sir, it would add a little to the masonry
also, nothing to the bridges. 1025

Q. It would add to the amount of way required?

A. Yes, sir; about three feet.

Q. How much right-of-way would be required for an
embankment, say twenty feet high; a double track
road?

A. One hundred feet would clear the embankment,
twenty-five feet road-bed, and slopes one and one-half
to one.

Q. Twenty-five feet? 1026

A. Yes, sir.

Q. Is that sufficient for two tracks?

A. Well, say twenty-six, twenty-six would be suffi-
cient.

Q. How if it is thirty-one feet?

A. Well, thirty-one feet on the top would be six feet
more; one hundred and six feet; whatever you add to
the road-bed, just so many feet to the width.

Q. Thirty-one, I say, instead of twenty-five? 1027

A. That would add six feet.

Q. Wouldn't it add but six feet?

A. No, sir; that adds nothing to the slope; the
slopes are determined by the height and not by the
width of the embankment on the top.

Q. Suppose you take an embankment thirty-one feet
high, and say twenty-six feet on top, how much land
would be required?

- 1028 A. One hundred and twenty-one feet at the bottom.
 By Commissioner McAlpine: Q. What is the distance from center to center of the double track on the New York Central?
 A. Twelve feet.

WILLIAM H. COURTNEY, sworn for the petitioners, and examined by Mr. McMillan, testified as follows:

- 1029 Q. Where do you reside?
 A. Silver Creek.
 Q. You are one of the roadmasters for the petitioner, the Lake Shore, are you?
 A. I am.
 Q. Where is your section?
 A. Between Erie and Buffalo, including East Buffalo.
 Q. And as roadmaster you may state what your duties are, in a few words, generally?
 1030 A. My duties are looking after the tracks and things pertaining thereto.
 Q. Making the necessary changes and superintending those?
 A. Yes, sir.
 Q. Do you know the point on the Lake Shore road where the Lackawanna Road proposes to cross the track of the Lake Shore?
 A. I am familiar with the location; I cannot give
 1031 the exact distance from any one point.
 Q. Well, you know where the stakes are?
 A. Yes, sir, I know where the stakes are.
 Q. You know that some changes have been made in the tracks and switches on the Lake Shore road recently?
 A. Yes, sir.
 Q. And also some on the Erie road at this point?
 A. Yes, sir, I am familiar with the changes.

Q. Were those changes on the Lake Shore road 1032 made under your supervision?

A. They were.

Q. From whom did you receive your orders?

A. I received the order from the chief engineer in regard to moving our switches far enough west as we called it—it is not west on your map, as you see by the location, but we were to move our switches out of the way so as to admit of the Erie getting in a second track, crossing across our track; we were to move them out of 1033 the way.

Q. Mr. Clark, that you speak of, is the chief engineer of the Lake Shore Road?

A. He is.

Q. When did you receive those orders?

A. They were verbal orders previous to November 12th; they were last fall; I could not give you the exact date, it was previous to November 12th.

Q. Have you some memoranda by which you fix the 1034 date?

A. I have.

Q. What is that?

A. I have a letter here written to Mr. Collopy under date of November 12th.

Q. Who is Mr. Collopy?

A. Mr. Collopy, as I understand it, is the roadmaster on the Erie road; we do business through him; I do the track business through him to a certain extent. 1035

Q. You worked together at this particular point, didn't you?

A. Yes, sir, I do.

Mr. McMillan: Q. This is a letter written by Mr. Courtney to Mr. Collopy, the roadmaster on the Erie road, showing the arrangements that had been made, and asking him to do certain things to carry out this arrangement?

1036 Q. Mr. Courtney, you may state then what the subject matter of your letter is, and if it was in pursuance of the instructions you received?

A. It is dated the 12th of November, 1880; the substance of the letter was, I asked him to remove a track that he had between the Diamond and Hart track, as we call them out there; it is a track used for transferring grain; it is below there, the Diamond and Hart track, and I asked him to take that track up, to get it out of the
 1037 way so as to admit of our filling the Diamond and Hart track; could not fill, of course, with a track being low; between the two it would block them up, and that was in connection with getting ready to extend another low track that they have between their main track and the Hart track; that is as I understand, or as I am trying to explain; it was the intention to extend the track they had around to connect up at the west end of the Diamond and Hart track, or about the west end, and then it
 1038 was also the intention at that time that we would move these switches to admit of their crossing our tracks with another crossing, with another track there; that was my understanding at that time.

Q. All these changes have been made, have they, in pursuance of the directions and understanding received at that time?

A. They have.

1039 Q. Have you at any time received any instructions from any source to change any track or switch in reference to this Lackawanna road?

A. I have not.

Cross examination, by Mr. Locke:

Q. When did you set about making these changes?

A. It was previous to November 12th; I cannot fix the date.

Q. When did you set about making the changes of the switches?

A. The switches were changed between June 22d 1040 and 29th ; we were four or five days in changing them.

By Com. McAlpine : Of this year ?

A. Yes, sir, that is the two switches, the switches that were in their way.

Q. By Mr. Locke, resuming : Did you get any instructions from anybody to make the change at this particular time ?

A. No, sir.

Q. It was simply accidental ? 1041

A. Well, sir, it comes under the head of changing our iron rail switches over into steel rail, which we are doing all over the road, and have them most all changed from the iron rail to the steel rail.

Q. I suppose that you can make a switch at a greater angle than that new switch that you have put in ?

A. We do not aim to do so.

Q. You can do it without a great deal of trouble, can you not ? 1042

A. Well, I think we cannot.

Q. You could not ?

A. No, sir.

Q. When did we commence putting in that other crossing ?

A. I don't know the exact date ; they graded some there two or three days previous to last Sunday, and the crossing was put in last Sunday, as I understand it ; I was not present. 1043

WM. P. TAYLOR, sworn for the petitioners and examined by Mr. McMillan, testified as follows :

Q. Do you reside in Buffalo ?

A. Yes, sir.

Q. And have for how many years ?

A. Ten years.

1044 Q. You are at the present time the general manager of the Canada Southern Railway, are you not?

A. Yes, sir.

Q. And for how long a time have you been?

A. A little over three years.

Q. Previous to that time you were division superintendent for the Lake Shore Company, were you not?

A. Yes, sir.

Q. Having in charge what portion of the road?

1045 A. Between Buffalo and Erie.

Q. How long did you have charge of that division?

A. A little over five years.

Q. During that time you became familiar with the business of the company, and their terminal facilities at Buffalo, did you not?

A. Yes, sir.

Q. Are you acquainted with the location at what is known as the transfer-house of the Lake Shore and Erie
1046 Company, and of the crossings of the Lake Shore and Erie at that point?

A. Yes, sir.

Q. You have never seen the staked-out route of the proposed line of the Lackawanna, have you?

A. No, sir.

Q. It is indicated on this map, "Exhibit 3," by the
1047 two dark lines indicating a double-track road; the red lines on this map, and the part shaded red, indicate the tracks and property of the Erie Company, the blue lines and part shaded yellow indicate the tracks and property of the Lake Shore Company; the dotted line at the right of the map indicates the proposed alteration which the Erie and Lake Shore suggest, including an overhead crossing at these points; this map, it also appears from the proof, indicates the location of the various switches and frogs at the points proposed to be crossed by the Lackawanna Company; taking all these things

into consideration, and also your experience in running 1048
and operating the Lake Shore road, and in running and
operating its freight yard, what do you say are the ob-
jections to a crossing such as is proposed at this point at
grade by the Lackawanna Company; you may state
those generally to the commissioners?

A. Well, I do not think it would be a very good
crossing for either road; I think it would be as bad for
the Delaware and Lackawanna as for the Lake Shore,
for the reason they are switching there all the time, and 1049
it would obstruct their trains passing as well as the Lake
Shore; all the switching when I was on the road for the
transfer freight to the Erie road was done over this cross-
ing—over these tracks.

Q. Over the point of the proposed intersection and
crossing?

A. Yes, sir; I could not say whether their business
now is heavier than it was when I was there, but at that 1050
time it would be a serious objection.

Q. What do you say, from your experience in the
management of railroads, as to the objections to grade-
crossings, stating generally the objections to crossings at
grade where the main lines are crossed, where the
amount of business is being carried on that is done by
the Lake Shore road?

A. Of course the crossings are very objectionable and
very expensive; there is no question about that. The 1051
heavier the traffic the more objection there is to them.

Q. Are there dangers from collisions?

A. Yes, sir.

Q. Serious interference with the general traffic and
the handling of freight?

A. Well, an obstruction to general traffic; I would
not say a serious interference.

Q. Would those objections be obviated entirely by
an over-head crossing along the dotted line, as proposed,

1052 having the Lackawanna company pass over the tracks of the Erie and of the Lake Shore? Dangers from collisions and from delays would be obviated, would they not?

A. Yes, sir, certainly.

Q. You have some knowledge in regard to the acquisition of this property here by the Lake Shore and Erie, have you not, the purposes for which that was acquired by the company?

1053 A. Well, I could not say; that property was bought before I was connected with the road. I always supposed it was bought for putting additional tracks there whenever they were needed.

Q. And if these tracks were run across there it would not be possible to extend those out a sufficient length to do the switching, not without crossing those tracks?

A. No, sir.

1054 Q. We have a statement here from the company, showing that the total number of cars passing over that point—that is, in switching back and forth, and being transferred and received from the Erie, and sent west and sent east during the year, amounts to 538,222 cars; that there is an addition of 73,186 to be made to that in addition to the passenger traffic?

A. That includes the through business, everything passing over these points.

1055 Q. Everything passing over these points. Now, what do you say about the delay and interference of having an additional crossing here, there being one here by the Erie—what would you say as to the delay in the handling of that amount of freight, the cars at that point—what would you say about the delay occasioned by making another crossing there at grade?

A. That is owing a good deal to how much the Delaware and Lackawanna road is used.

Q. Assuming that they are building a double track,

which is the index to what they propose to do ; that is 1056
about the only thing that we can assume, that they have
laid out and propose to construct a double track ; if they
do that we assume that they will have some business of
considerable importance ?

A. It would necessarily cause a considerable delay, if
they do very much business there ?

Q. What do you say about the expense of the crip-
pling of cars by reason of crossing all these crossing-
plates on all these ten tracks here—is that an item 1057
which is taken into consideration very largely in the
management of railroads ?

A. Yes, sir, it is, although I don't think it would be
as large there as it would be if it were located out on the
main line some ways ; trains in the yard run slower.

Q. The damage is regulated largely by the speed in
going across these places here ?

A. Yes, sir.

Q. From your experience in the management of rail- 1058
roads, would you say that such a crossing as that was
desirable to be avoided if possible ?

A. Yes, sir.

Cross examination, by Mr. Locke :

Q. There is no trouble in rearranging switches, is
there, for tracks, if you have room enough ?

A. No, sir, I should think not.

Q. Did you say that you supposed that land was 1059
acquired for the purpose of extending these other
tracks up ?

A. No, sir ; extending the transfer tracks.

Q. How long have you been running that transfer
business with the Erie road ?

A. It was running all the time I was on the road.

Q. Were all these tracks there when you were ap-
pointed division superintendent ?

1060 A. There were four long tracks there, I think.

Q. You have four there now, have you not?

A. Yes, sir.

Q. That was five years ago?

A. Yes, sir.

Q. So that that has been sufficient for the last five years, has it not?

A. Yes, sir.

1061 Q. This land was bought long before you had anything to do with the Lake Shore road?

A. I could not say that; before I was superintendent.

Q. Except as it is used now it has always lain vacant and idle?

A. Yes, sir.

Q. You have some grade-crossings on your Canada Southern road, have you not?

A. I am sorry to say I have.

1062 Q. How many of them?

A. Well, we have got about ten.

Q. Do you cross anybody over-head?

A. Yes, sir.

Q. Who?

A. The Lake Shore.

Q. Do you cross the Lake Shore?

A. Yes, sir; going into Toledo.

1063 Q. Are there any over-crossings of your road of the Canada Southern?

A. No, sir; there is one under-crossing.

Q. Does that cross any other road at grade?

A. Yes, sir.

Q. I mean where the other roads were constructed first?

A. Yes, sir, we have several; several crossings.

Q. How many people were killed at those ten over-crossings by collision of the passenger trains in 1880?

A. None, sir.

Q. Not any ?

1064

A. No, sir.

Q. Did you have a good many serious accidents at those over-head crossings in 1880 ?

A. No, sir ; we had one—not very serious.

Q. How serious was it ?

A. It cost about two thousand dollars.

Q. Where was that ?

A. Near St. Thomas, in Canada.

Q. Did you have the right of way, or the other road ? 1065

A. The other road.

Q. Then your engine ran into it ?

A. No, sir.

Q. That is the only accident that you had last year ?

A. Yes, sir.

Q. Did you have any the year before that you know of ?

A. No, sir ; none.

Q. The year before that ?

1066

A. None.

Q. Is that the first one you have had on the road ?

A. Since I have been there.

Q. How long have you been there ?

A. Three years and a little over.

Q. Were you here on this road when the Buffalo Creek crossing was located ?

A. I was not superintendent at that time.

1067

Q. That was before your time ?

A. Yes, sir.

Q. You ran that road five years with the Buffalo Creek crossing at grade, just beyond the Buffalo River ?

A. Yes, sir.

Q. Were there a great many accidents occurring at that point while you were division superintendent ?

A. I don't remember now of any, sir.

1068 Q. You crossed the Philadelphia and Erie road at Erie?

A. Yes, sir.

Q. At grade?

A. Yes, sir.

Q. Any accidents at that crossing while you were superintendent at Erie that you now recollect?

A. I think there was one, but I would not say positively in regard to it.

1069 Q. It did not make any impression upon you; it was not a very serious one?

A. No, sir; I think we had some freight cars off there at one time.

Q. I understand you to say that if the Lackawanna should have a grade-crossing at that point, that Lake Shore would still be worth something, probably?

A. Undoubtedly.

1070 *Re-direct examination*, by Mr. McMillan:

Q. The third rail on the Erie by which through business could be transferred and sent over the Lake Shore from the Erie, has been laid since you left there, and most of the freight passing over it was transferring cars at that time, wasn't it?

A. Yes, sir.

1071 CHARLES LATIMER, re-called on behalf of the petitioners and examined by Mr. Greene, testified as follows:

I wish to make a correction in my testimony. I made a mistake in taking 7,666 hours; it was 2,760 hours. I handed it to a friend and he went over it, and I thought he was correct, but he did not observe my figures closely enough. It was 2,760 hours, and that made a difference in my estimate, making \$20,700 instead of \$57,000 on the basis of a time estimate. Now, if I throw off one-half it will be \$10,350 instead of \$28,500 and something.

Q. Have you, since you were on the stand yesterday, 1072 gone through more carefully than you could while being examined, and prepared a statement and calculated in detail the cost and damages to which your attention was called yesterday?

A. Yes, sir.

Q. Will you, now proceed, and give us, in your own way, the basis of that estimate, and the items?

A. I estimate upon the damage for frogs to wheels at the proposed crossing, \$5,760, upon the business that 1073 will go over there according to the evidence.

Q. Per year?

A. Per annum for the two main crossings, and for the other crossings, the crossings of the other five tracks. I take one-tenth of the damage to each, and as there are five it brings the same estimate, that is, \$5,760 for the other crossings that are there, making for the five crossings the same amount as there is for the one crossing; 1074 that is, five crossings, but ten frogs, making the same amount as upon the main line. I took one-tenth of the amount for each of those crossings as the damage.

Q. The \$5,760 was for the two main crossings?

A. Yes, sir; and I took one-tenth as being one-tenth of the damage to each of the others. That is as near as I can come at it. This is all damage to wheels on a million of cars per annum; other damage to cars outside of wheels, \$2,860 per annum; that is, to axles, and pins, 1075 and links, and bodies, and everything connected with cars. Now, on passenger cars, being one-tenth of the whole number, and the cars being double the value, the repairs on the cars being double, three-quarters of a cent being the repairs on freight and a cent and a half being the repairs on passenger cars, I take that as double, making \$576 for passenger cars, and that is only on the main line; as they don't go on the sidings I didn't put it

1076 on the sidings. Now, on locomotives, twelve hundred and fifty dollars, that makes a sum of \$19,066.

By Com. McAlpine: Q. The damage to locomotives is for freight locomotives and passenger, I suppose?

A. Yes, sir, \$1,250. The question of loss of time: I take locomotives at \$11.00 for a hundred miles; wages of train men, \$7.00; rent of cars, \$30.00; locomotive, \$8.00; track, \$5.00, and you get the value then of running a train a hundred miles, \$61.00. Now, if you take that in
1077 ten hours, it gives you six dollars an hour as the value of the loss of time of a locomotive and of the cars and of the men, and that is a basis and the only basis upon which I can estimate the loss of time; as time is money, that makes your 2,760 hours \$16,560; ninety-two trains five minutes each.

Q. Counting five minutes each detention?

A. Yes, sir; allowing that the average is five minutes detention on the train; that is an assumption, of
1078 course; if my assumption is not right it falls to the ground or is changed, as evidence may bring it in. If I am not right it is the only way of getting at it; if I am right it is sustained; and if not, it is not sustained. Now, the possibilities of accident I consider at that crossing as a life a year.

Q. Have you got through with the money loss there?

A. The total amount would be \$45,647; stop a mo-
1079 ment. I had added the whole thing together. The \$19,026 and the damage to persons and the damage to material.

Q. Leaving out the injury to persons, just the injuries that you have stated?

A. I will take the two first items, leaving out the injury to persons and injury to material \$35,626.

Q. That is from injury to stock, and detention?

A. Yes, sir.

Q. Now, you may give what you did on the other 1080 basis?

A. I merely assumed that the loss of a life is likely to occur once a year where you have a great number of employees to look out for.

By Com. Clark: Q. By reason of this Lackawanna crossing?

A. Yes, sir; well, I don't know that I would say that either; I could not say that that was all; it would be the complication of the crossing, and you may take half 1081 to the one and half to the other on that question; and damage to material if a collision were to happen and two locomotives were to be smashed up at that point, it would simply cost \$5,000 to repair them, it might be very much more, but I assume it as possible, that is merely an assumption.

Q. \$5,000 a year?

A. \$5,000 per annum. It is possible that with a complicated crossing like that, and three crossings to look 1082 out for, and three different roads to look out for, that there would likely be \$5,000 worth of damage to material there. I call a life \$5,000 because in Ohio \$5,000 is estimated as a life; of course it depends on what life it is, but it is generally estimated that it is \$5,000 that you have to pay a man in case he is killed.

Q. Does that complete your estimate?

A. That completes my estimate; you want to have the basis on which I make my estimate; I can make a 1083 paper, if you desire it.

Q. If there is anything on that subject that will be proper or desirable to state, you may state it; anything further?

A. In this basis I have taken the average of the life of a wheel at fifty thousand miles, and the removal of a wheel \$7.50; the average mileage of a car seventy-five

1084 miles per day; that requires a renewal of all the wheels in 18 months.

Q. That and the other estimates are made by you from your actual observation and experience?

A. Yes, sir.

Q. And from your knowledge on the subject?

A. Yes, sir; it would be well to state how many frogs and how many crossings I allow, I think, because that would change the basis, and that is easily calculated if I
1085 am incorrect; I take it over a division of a hundred miles; that would strike eighty frogs and ten crossings; that it will take 410,000 blows to wear out a wheel.

Q. What kind of blows?

A. Blows on crossings and frogs, and, besides that, so many miles run—the smooth track added to the blows, that is all.

Cross-examination, by Mr. Locke :

1086 Q. You said you had twenty-eight crossings at grade?

A. Twenty-six on the main line.

Q. And two on the branches?

A. Yes, we have thirty-five altogether.

Q. Grade-crossings?

A. Not all grade-crossings.

Q. How many grade-crossings?

A. We have twenty-six on the main line.

1087 Q. Now, at \$45,626 apiece, how much would your twenty-six crossings cost the Atlantic and Great Western Road per annum?

A. It would cost a very serious sum; but we have no crossing where it would cost any such sum as that.

Q. How much does it cost you on each of your crossings, your twenty-six crossings of the Atlantic and Great Western Road?

A. Well, it has been variously estimated from forty

cents to a stop ; that amounts to about probably two 1088
hundred thousand dollars per annum.

Q. On the twenty-six ?

A. Yes, sir ; it looks very large, but we don't know
where the money goes.

Q. That would be about eight thousand dollars
apiece, would it ?

A. Yes.

Q. Now, does the Lake Shore here at this point pass
six times as many cars as you do over your Atlantic and 1089
Great Western ?

A. On an average, yes, sir, I think it does.

Q. About six times as much ?

A. Yes, sir, at this particular point.

Q. So that yours cost eight thousand dollars apiece,
and you have twenty-eight, and that is two hundred
thousand dollars ?

A. Yes, sir ; that estimate of two hundred thousand
dollars I admit has been called in question. 1090

Q. Somebody suspected that it was exaggerated ?

A. No, it has been called in question at times, that
amount ; but we claim, in examination of that, that the
damage at these crossings, the wrenching and stopping
and injury to the cars, is mainly at those particular
points ; at all wrenching points, mainly, is the difficulty.

Q. Don't it hurt a car just as much to stop it at one
place as another ?

A. No, sir. 1091

Q. You think if there happens to be a crossing a few
feet ahead there is more injury to a car ?

A. Yes, sir ; there are various circumstances which
make it so.

Q. Does it hurt it any more to start it because there
happens to be a crossing upon roads in advance ?

A. No, sir ; unless you want to get out of the way of
a train ?

1092 Q. If you wanted to stop at a tank, the damage would not be near as much as if you wanted to stop at a crossing?

A. Well, sometimes it would; it depends altogether on circumstances; there you are not in danger of running into anything; and you can run by and back up if necessary.

1093 Q. In your estimate here you figure the damages of the frogs and wheels; that would be entirely applicable to the existing frogs, or to the frogs of both the Erie crossing and the Lackawanna crossing?

A. In right-angle frogs, where the frogs are at right angles, you bound from one side to the other of the opening.

1094 Q. Do I understand you to say that if another crossing is put in by the Lackawanna Road, then this damage will be any more at the two crossings, the Erie crossing and the Lackawanna crossing; or do you charge it all to the Lackawanna crossing.

A. I mean specially in this; taking the Lackawanna crossing, in that amount of 19—

Q. Last night you promised me you would figure up how much damage was sustained by the present Erie crossing, how much do you say?

1095 A. Well, I make out the same amount of wheels, I can't make it any differently from that; as to the time, the time, I presume, is the same in both cases.

Q. That is 16,500?

A. Yes, sir; I took the Lackawanna crossing at the same time, on account of the various other crossings it has to go through.

Q. Damage to axles, would you put that in?

A. I would take one-half to each, because when you have the three you have got to have your eyes on more than one place at one time, in order to see that you are not run over.

Q. Passenger cars the same, one-half to each, and 1096 damage to locomotive one-half each.

A. No, sir, I didn't say so.

Q. Now, give me in dollars what you will say; your estimate of the cost of the present Erie crossing per annum to the Lake Shore road?

A. Well, I don't see that there is any difference in the crossing, in the two.

Q. Give it in dollars?

A. \$35,626, besides the question of accidents and 1097 damage to material.

By Com. McAlpine: Q. Accidents to life?

A. In addition to that you must estimate the accidents to life and material, I call that five hundred dollars to each road, that would make forty thousand six hundred and twenty-six.

Q. For the Erie crossing?

A. Yes, sir; I ought probably to say that I think when three crossings are there, the damage to life will 1098 be greater—the liability; I think that is so.

Q. Now, you said that the Lake Shore damage, because of the Erie crossing, is \$40,626; now, how much will be the aggregate to the Lake Shore of both crossings, that is, the Erie and the Lackawanna, too?

A. I could not get the amount of cars without going to the Erie road and studying up the question.

Q. You state the Erie crossing damages the Lake 1099 Shore \$40,626 a year?

A. Yes, sir.

Q. Now, I want to know how much the Erie and Lackawanna roads together will damage the Lake Shore road?

A. I would have to have the data from the Erie road.

Q. No, I mean the combined injury?

A. I should take it that is the aggregate of the two sums given me.

1100 Q. That would be eighty thousand dollars?

A. Yes, sir.

Q. Now, you have got another under-loss of time, \$16,560 in each case?

A. Yes, sir, that is on a basis that after this road was built, that there would be just as much delay on the other as there is here.

Q. That is, that each of those roads is going to delay every single train that goes over the Lake Shore road,
1101 five minutes?

A. No, sir, I think there will be a great deal more delay in the switching in the yard.

Q. That is the way you get out of it?

A. That is the way I get out of it.

Q. How much do you think both crossings will delay the through trains on the Lake Shore road?

A. Well, I suppose by the passenger trains it would be an average of five minutes all through; I have only
1102 taken half in my estimate; whatever basis I have here, is subject to revision upon certain figures; they are here and they can be tested.

Q. Then you are not able to make any calculation here upon the data that you have?

A. I have made a calculation from the data that I have.

Q. Are you able to make any that is satisfactory to
1103 yourself?

A. It would be utterly impossible for anybody.

Q. Can't you answer my question, yes or no, are you able to make any calculation that is satisfactory to yourself?

A. I don't want to answer you in any other way than is proper.

Q. Will you answer my question, yes or no?

A. No, sir; I will answer it in a way that ought to be satisfactory to you.

Q. Do you know what the operating expenses of the 1104 Atlantic and Great Western Road were in 1876?

A. Three millions and a half probably, or three and a quarter millions.

Q. Those were the operating expenses you think?

A. Yes, sir.

Q. Do you know how much it cost for the repairs and machinery, including the repair of engines, tenders, passenger and baggage cars, freight cars, tools and machinery in shop, and all the items about the shop, and 1105 everything of the sort, clerks, oil and fuel?

A. I have calculated and put it in a chart many times, but I don't remember what it is now; you can't expect me to keep all those things in my mind.

Q. Was it over two hundred thousand dollars?

A. If you will give me the figures, and I can put my eye on figures as I have made them, I can tell you; I don't recollect.

Q. Your road is a broad-gauge road? 1106

A. No, sir, not now.

Q. Now, in your three millions of dollars, or three and a half, was there a million dollars, about, for repairs of bridges, repairs of telegraph, cost of iron used in repairs, repairs of buildings, repairs of fences and gates, and taxes?

A. My remembrance is that it was somewhere about seven hundred and sixty thousand dollars. 1107

Q. You are right into about two hundred and fifty thousand dollars?

A. Well, you see, remembering back a good many years, I can't tell.

Q. Once in a while freight cars and passenger cars get hurt at some other point than crossings?

A. Yes, sir.

Q. They wear out at other points than crossings?

A. Yes, sir.

1108 Q. So you would not want to charge to your twenty-eight crossings the entire repairs of your rolling stock on that road?

A. No, sir.

Q. About what proportion of the entire wear and tear on your road on rolling stock ought to be attributed to the crossings, what per cent.?

A. Well, you can see that to say that would be merely guessing at it; you wouldn't wish me to do
1109 such a thing as that.

Q. In your operating expenses you would not charge anything for office expenses, or agents or clerks?

A. No, sir.

Q. Or loading and unloading freight?

A. No, sir.

Q. Or porters, watchmen and switch-tenders?

A. You would switch-tenders.

Q. Fuel?

1110 A. Yes, sir; you would have to have fuel.

Q. How much fuel would you have to charge?

A. I don't remember; five cents a mile, I think it is.

Q. Have you not, in your testimony that you have given here in regard to the cost of your twenty-eight crossings, charged those crossings with thirty-three per cent. of the entire repairs of cars and rolling
1111 stock on your road?

A. I don't know whether I have or not.

Q. This is some of the statistics in regard to your own road that you are not familiar with, are you?

A. I am about as familiar as most people are; I don't carry them all in my mind, but I have a chart in which I have put them all carefully, so that I can at a glance tell them; it is impossible for me to keep them, any more than you can a law-book in your mind,

or state all your cases; of course I don't want to state 1112 anything here that cannot be verified.

Q. Damage of frogs to the wheels at main crossings, you say that would be \$5,760. How much is that per wheel?

A. It is eighteen ten-thousandths of a cent—one hundred and forty-four thousandths of a cent for eight wheels.

Q. How did you come to settle on that sum?

A. I have given that before; I take the average life 1113 of a wheel, of fifty thousand miles run, and the cost of a wheel at \$15.00 value, of renewal, \$7.50; average mileage of a car, seventy-five miles per day; and, therefore, it is assumed that the eight wheels of a car are renewed once in eighteen months, in which time the car passes over a division of one hundred miles of the Lake Shore road five thousand times.

Q. What in the world has that got to do with the 1114 force of the blow at the frog?

A. I have to simply divide it among the number of blows; I take a wheel running a mile on a smooth track, it would hurt it very little; if you strike a blow at a frog or a crossing, you do the only damage probably that is done in that mile; it is fair to assume that if I strike the blows, that the blows do the damage, and if I assume that, I come at it as near as I can; I cannot pretend to say that I am correct, but I have assumed a 1115 basis.

Q. Do you have any reports of where your car-wheels are broken?

A. No, sir; they do not come to me.

Q. Do the Atlantic and Great Western have any such reports?

A. Yes, sir; certainly.

Q. Don't those reports show where breaks have occurred?

1116 A. Of course they do.

Q. I suppose if a car leaves Buffalo all right, and it was broken at Hamburg, it might possibly be reported to somebody in connection with the Lake Shore road that there was a broken wheel at Hamburg?

A. Yes, sir; you can't always tell what part of the track it is broken.

Q. Have you any statistics so that you can tell how many car-wheels are broken at these crossings? Have
1117 you ever had any such statistics?

A. No, sir; I have not, but I have found that the crossings seem to break the most of the wheels.

Q. How did you find that out?

A. Simply by talking it all over with the road-masters.

Q. You get your information from the road-masters;

A. Yes, sir.

Q. That is the only place?

1118 A. I could not be on every place along the line at once.

Q. Do you mean to say a car-wheel don't wear out on a level track?

A. Of course it does, but if you give it a nick on the crossing there, then the brake catches it; it flattens and wears out; flatten it in any way, then your truck strikes it, and it wears out.

1119 Q. How big a nick does it take to start it?

A. A very small one, I should think; anything that would catch the end of a brake.

Q. Common switch-frogs?

A. Not with a road with proper switch-points; there is no more danger at a switch-point than any other part of the rail, because it is smooth.

Q. But you have charged, as I understand you, in your calculations—you have said that the pounding that a wheel gets at this frog is equivalent to the pounding

that it would get on a mile of track ; is that it—is that 1120
what you said ?

A. Yes, sir ; on a perfectly smooth track, I think that is a fair assumption. Now, I will say, I will make this statement in writing, and if I find any errors in my evidence, I want, of course, to have the privilege of correcting them and sending them here under oath.

WILLIAM DALY, sworn on behalf of the petitioner,
and examined by Mr. Greene, testified as follows : 1121

Q. You reside in Buffalo ?

A. Yes, sir.

Q. What is your occupation ?

A. Freight foreman for the Lake Shore and Michigan Southern Railway.

Q. And how many years has that been your position ?

A. About three.

Q. Where have you been engaged during the last 1122
three years—at what point upon the road ?

A. At what is known as the Erie transfer-house.

Q. Are you familiar with the movement of trains and cars at that locality during the last three years ?

A. I am, somewhat.

Q. At the Erie crossing, both upon the Erie and Lake Shore roads ?

A. I am.

Q. And the transfer business there transacted ? 1123

A. Yes, sir.

By Commissioner McAlpine : Q. Is that the crossing at Sandusky street ; is that called the Erie transfer ?

A. The Erie transfer, yes, sir.

By counsel, resuming :

Q. Will you state to the commissioners the manuer in which the business of the Erie and Lake Shore companies is transacted at that point, more particular in reference to the use and occupation of the tracks of the

1124 Lake Shore and Erie at the point where the Lackawanna propose to cross?

A. Well, I can show you a little better on the map.

Q. If you will go on and put it in language as well as you can, so as to describe it, because the stenographer cannot take down the map?

A. Well, we have several tracks there that we work on, one we know as the Hart track, and that we deliver all east-bound freight on; let me correct that, I
1125 said all east-bound freight, I should have said all east-bound through cars on the Hart track.

Q. Which is the track you call the Hart track?

A. The southeast track, it runs down and intersects with the Erie railway.

Q. It is the track marked in blue lines?

A. Yes, sir, the southeast track; on that track we delivered all our east-bound cars with through business; those cars that can run through we deliver on that track
1126 to connect with the Erie at the lower end; the next track is the Erie railway grain track, it is a low track; the next track is the diamond track where we shove our crippled cars, etc., cars that have to be transferred, and use a spout to transfer grain down to the other Erie railway cars.

Q. That is an elevated track?

A. That is an elevated track, so is the Hart an elevated track, and our diamond track runs here to a stub
1127 end; there is a platform that stands in here; we unload grain off this diamond track, and in the meantime we unload logs and railroad iron and such stuff as that on this platform; we use this platform for rough freight; there is three tracks on the southeast of the platform, and then comes the platform, and then comes the Erie railway platform track, as they call it; there is where they receive coarse freight and deliver coarse freight to

us, such as stone, railroad iron, logs, or anything of the 1128 kind, where the weather don't damage it.

By Commissioner Clark: Q. State right in that connection to whom these tracks belong?

A. Those marked in blue to the Lake Shore, and in red to the Erie; then we have another track running into the transfer-house here, where we unload all perishable property, and where we load all west-bound freight that is crippled, crippled cars, or mixed freight, it is transferred from one car to another into this building here. 1129

Q. This Lake Shore house-track cuts the Erie track?

A. Yes, sir, it crosses the Erie track.

Q. The others you have mentioned, none of them do?

A. No, sir, but—

Q. But all the tracks that you have mentioned are crossed by the proposed crossing of the Lackawanna?

A. All excepting the Erie railway platform track, they propose to extend that up on our track; as completed, the Erie platform track would be crossed by the 1130 Lackawanna; there is another track where we receive our west-bound freight, that is called the dock track, it holds twenty-six cars; we receive all empty cars returned from the Erie railway to us, and all our west-bound freight through business on that track.

Q. Tell me, if you please, as to the necessary movement of the cars over the proposed crossing, in order to transact the business that is now done upon the Hart 1131 track, the low grain track, the diamond track, the Erie platform track, and the house track; state the movement of the cars in reference to their passing and switching back and forth over the point where the Lackawanna proposes to cross; the house track intersects and unites with one of the main tracks of the Lake Shore immediately north of the proposed Lackawanna track, does it not?

A. I think it has been changed; I am not positive,

1132 but I thought there was talk of changing it, running it up further ; I am not positive whether Mr. Moran has done so lately or not.

(First part of the previous question read by the stenographer.)

A. Well, after the cars arrive, and are in the yard here, after they have been switched and put down in the yard in different tracks, when we can get this crossing from the Erie Railway folks, and get a chance
1133 from our own trains going in and out ; this house track is clear wherever we have those cars chalked to be put ; we pull clear up to the bridge, up above all those switches ; one car may be marked for the Hart track, another for the diamond track, another for the house track, and they go up and switch backwards and forwards until they get that train switched or those tracks full ; whatever they have left they run down into the yard again.

1134 Q. How many cars do those tracks hold ?

A. The Hart track will hold 36 cars to clear the diamond track ; when we block the diamond track with them, the Erie can get on about thirty-eight cars from the point of the street ; putting a car right on the street and bringing it up to clear the main track, we can get 38 cars.

Q. By bringing it up to Sandusky street ?

1135 A. Yes, sir ; we can get on 38, an ' sometimes, if they are short, 39, but as a rule 35 is the number it will hold ; the diamond track, so that it will work, will hold about twenty cars ; we can use 25, but 20 is the number.

Q. What do you run those for ?

A. To deliver on the Erie road ; on the diamond track we transfer crippled cars, cars that cannot run ; they cannot be repaired until they are unloaded.

Q. You run them up there and unload them ?

A. Yes, sir; a car with grain, with broken draw- 1136
bolts, etc., they cannot get in to repair it until it is un-
loaded.

Q. How is it in reference to the portion of time that
those tracks are actually occupied with cars?

A. Those tracks are occupied with cars, either
switching or filled, all the time; pretty much all the
time on this diamond track and on this; there is more
than room on the diamond—this low grain track—
than 20, but we cannot use them. 1137

Q. The house track; how are the cars transferred
to and from that, and for what purpose, and how fre-
quently?

A. As I say, we unload flour, or any perishable prop-
erty; they are pulled up to the bridge and switched in
over all these crossings, sometimes brought up together
with the Hart track, more times drawn up alone.

Q. You have to get them back again; what is done 1138
before they are made up into trains? Give it from the
arrival of a car unloaded, until it is sent away again:
how many times does it cross over?

A. If the Erie folks have west-bound freight I
have to ask the yard-master for empty cars; he will
bring them from some portion of the yard; he will
bring them up towards the bridge, past the proposed
crossing, and into the transfer-house.

Q. And back again over the proposed crossing into 1139
the transfer-house?

A. Yes, sir; then we load those cars up in the trans-
fer-house ready for trains; then they are pulled out
over the proposed crossing, over the switch, over the cir-
cle track that is there; they go down on that side, and
down on No. 1 track back again over the proposed cross-
ing, down into the yard on to those two tracks that stand
there, Ryan's and Strong's.

1140 Q. Then when it is sent off again, does it again go over the proposed crossing?

A. Yes, sir.

Q. And also when it comes in, when it is received, before any of the movements that you have spoken of, it passes all over this proposed crossing?

A. Yes, sir.

Q. Is it not frequently the case that cars destined for any of these tracks that you mention here are likely
1141 in switching, and before you are able to reach the particular car in order to send it upon the proper track, is it not often the case, and usually the case, that it passes over the point of the proposed crossing quite a number of times in addition to what you have said?

A. It is.

Q. In order to distribute the cars, each time that a car is sent back upon one of these tracks, the whole train may have to pass over the proposed crossing once for
1142 the delivery?

A. Not the whole train don't pass over the crossing, but a portion of the train.

Q. Well, a portion of the train.

A. Yes, sir; a portion of the train will have to pass back and forwards over that.

Q. A crossing of a train has to be made at that point—a train or some portion of it?

1143 A. Yes, sir.

Q. Suppose they have a train with twenty-five cars in it, and there are scattered along through that train a half a dozen cars, and they are destined for each of these tracks. Now, in order to deliver them, you would have to run that train back and forth a half a dozen times, would you not?

A. We would have to run it back and forth as many times as we had cars for different tracks.

Q. Once for each car?

A. Yes, sir; or twice.

1144

Q. Unless there happened to be two cars for each track?

A. Yes, sir, which is not usual, and we sometimes have twenty-five cars for one track. I say, after the trains have been switched and down in the yard, they are pulled up here, and then seesawed.

Q. That is an addition to the necessary switching for the distribution of cars when they arrive?

A. Yes, sir; that is in addition to that. I am not 1145 saying anything about that. I am merely saying what is to be done there when the cars are pulled up to be delivered, put onto those tracks.

Q. State to the gentlemen about the detentions and inconveniences that now exist, and have for the last three years, caused by the Erie crossing there?

A. Well, at the present time the amount of business that we are doing, it takes us all our time to do our work, and a little more. It is very hard to do our work, 1146 as it is, with the inconveniences there of the crossing, because with our freight trains coming in and out, and making it a single track where the proposed crossing of Lackawanna is, we use that as a single track to our east and west-bound trains, one of those main tracks; it is a single track there for east and west-bound trains; west-bound trains cross over and take the left-hand track going out, and the east-bound train coming in takes the right-hand, as the yard is on our right hand coming in, 1147 and our work is all done at this point between the Erie crossing and this proposed crossing.

Q. That is principally between Sandusky street, as shown on the map, and the Erie crossing?

A. Yes, sir.

By Com. Clark: Q. How far does it extend up towards the bridge, that work that you have been speaking of, how near the bridge?

1148 A. Well, to do our work, very oftentimes, we have to run within twenty or thirty feet of the bridge, but as a rule not quite as far as that.

Q. The nearer you approach to the intersection of the Erie and the Lake Shore tracks coming from the bridge, the more local work there is that is done over the track, is there not? It increases as you approach that point?

A. Yes, sir; it increases as you approach that point.

1149 By counsel, resuming: Q. Does this map, "Exhibit No. 3," correctly locate the tracks that you have mentioned, and the switches, and the points of intersection, and the cross-over from one to the other main tracks of the Lake Shore road?

A. It does, with one exception, that the platform track does not now connect with our track at the present time.

By Mr. Clark: Q. Where does it stop?

1150 A. It stops about forty feet southerly from the Erie platform, but they propose to extend that track up there, and propose to extend the platform to a culvert that is in there; the proposed Lackawanna road runs across the south end of the culvert, and they propose to run the platform up to that.

By counsel, resuming: Q. That is, they propose to extend this platform southerly about the point where the proposed tracks of the Lackawanna will be?

1151 Q. Within about, I should judge, twenty or twenty-five feet.

Q. And is that extension and increase of the size of the platform necessary for the proper transaction of the business of the two roads there, the Erie and the Lake Shore?

A. It is necessary; it is absolutely necessary.

Q. The proposed extension of the Erie platform

track would be substantially the portion now marked in 1152 blue on "Exhibit 3," would it not?

A. Yes, sir.

Q. And would cross the point where they propose to locate the Lackawanna tracks, would it?

A. It would, sir.

Q. What do you say as to the necessity for the construction of that track, the Erie platform track, in order to transact the business of the company, or the companies, at that point?

1153

A. It is necessary, absolutely necessary.

Q. Why?

A. In the first place, this track has got to be extended to give me room enough to do the work, and if that platform is extended, certainly this track must be extended up there.

By Com. McAlpine: Q. And further?

A. And further, because very oftentimes we have crippled cars to be thrown back to the Erie road that 1154 come back onto these other tracks; they have to go back to the Erie road, and they have either to be mixed up with the Hart track cars, or we have got to have some track to put them on; and it was proposed to put in this track so that the Erie could take them off.

By counsel, resuming: Q. That would have a tendency to reduce the amount of the switching that you have to do here?

1155

A. Yes, sir.

Q. And has your experience demonstrated that the switching necessarily done here now, to accommodate the present and past business of these roads, is such as to produce at times, delays and detentions serious in their nature?

A. It has, sir.

Q. Now, you may tell us about how long at times

1156 operation upon the Lake Shore is suspended, or upon the Erie is suspended?

A. Well, I have known it to be forty-five minutes where the Erie folks have taken the crossings there, and our switching business has all been delayed forty-five minutes; it does not always take as long as that, but I have known it to be as high as that, and I have known our road to block the Erie road from doing their work the same amount of time; it is, a man might say, a perfect see-
1157 saw there all the time, or pretty much all the time, at that point?

Q. To put in another road there that you would assume would occupy the time that the Erie does, would it, in your judgment, be possible to properly transact the business there of your roads?

A. I think if there was another crossing there and they did as much business across that crossing, or one-half the business across that crossing that the Erie Rail-
1158 way folks do, that it would be almost impossible to do our business there; as it is, we require a good deal more room to do our work, to do it properly and in good shape, than we have got.

Q. You may explain about the dock track?

A. Well, this little short track, the dock track, holds twenty-six cars.

Q. That would be crossed by the proposed location,
1159 would it not, by the Lackawanna road?

A. Somewheres about its center; that track holds twenty-six cars, and we have taken off from that track in a day, not including crippled cars and cars switched back, we have taken 344 cars in one day off from that little track.

Q. Delivered to you by the Erie?

A. Delivered to us by the Erie; those cars have to be pulled down into the yard, to the east end of the yard, then the engine runs around them and runs up to the

west end of those switches when there is cripples or 1160
empty cars in on them; sometimes we don't allow empty
cars to go west with loaded cars; send them west in
trains by themselves; it is necessary then that those cars
should be taken hold of and pulled up over the proposed
crossing; sometimes, not always, but very often, and
allow the west-bound freight to run back onto those
tracks, and shift out the cripples, and bring them up over
this proposed crossing; either deliver them on the Hart's
track when we can, or hold them in the yard in some 1161
manner and deliver them back onto that dock track
again; wherever we have the best chance and the most
room, and that is why I say if this proposed track is put
in, we could deliver the cripples to the Erie onto this
track.

Q. Would the crossing at grade on the proposed
location very seriously interfere with the business, that is
and has been done upon this dock track?

A. It would; it would in the first place shorten up 1162
the track.

Q. Cut it in two?

A. Cut it in two; we could not put in so many cars
on it, and the Erie folks could not deliver so many cars
at one time, and everytime that we went on there to pull
the train we would have to back up.

Q. And having the track, with the right of way by
the Lackawanna, would necessarily suspend crossing at 1163
each and every one of these tracks while it had the track,
wouldn't it?

A. It would, sir.

Q. As well as the main tracks of the Erie?

A. It would.

Q. And the main tracks of the Lake Shore?

A. Yes, sir.

Q. Cuts them all in two, in other words?

A. Cuts them all in two, and at certain times of day

1164 should the Lackawanna folks or Erie folks bother us there in receiving cars from them it would seriously delay the freight.

Q. The departure of freight trains?

A. The departure of freight trains; and not only that, but it would delay the delivery of freight at Cleveland; whenever a train leaving here called train "39" that arrives in Cleveland at 5.15, I think it is, and the freight going to Cleveland town don't get onto that train, if it
1165 don't get onto "39" and takes the next train leaving here, it misses that day's delivery at Cleveland; that has been shown to me several times by telegrams from Cleveland to be very particular to get off freight for Cleveland on train "39," and fifteen or twenty minutes delay there would stop us from getting the train made up.

Q. How about all the freight received from and delivered to the Central Railroad Company being compelled to cross at the proposed crossing?

1166 A. All freight in and out, east and west, over our road has to go over backwards and forwards over our crossing.

Q. As well that transferred to the Central as to the Erie?

A. Yes, sir.

Q. And how with reference to having to cut the freight trains at various street crossings, when they stop by reason of the other road having the track?

1167 A. At the present time when the Erie Railroad has the track, our trains pull up as far as they can towards the Erie crossing, then they have to cut all streets back of that.

Q. How many streets?

A. Well, there is three streets, Elk, Perry and Fulton. If they should go down on some of those side-tracks coming out on the side-track, they might have to

cut Perry, but not very often. If it is a long train of 1168 empty cars they would have to cut Perry street.

Cross examination, by Mr. Locke :

Q. How long have you been there at this point ?

A. I have been there about ten years, but I have been foreman about three years.

Q. During that ten years have you ever known a time when a Lackawanna train would have had five minutes in which to cross to make that crossing if it had had a 1169 train there ?

A. I have, sir.

Q. More than once ?

A. Yes, sir.

Q. How long a time have you known when that crossing there was not actually occupied ?

A. Well, that I could not state.

Q. You have half an hour ?

A. Yes, sir.

1170

Q. An hour ?

A. Yes, sir, I think so.

Q. Two hours ?

A. No, not two hours, and I won't really say an hour. I don't know any time where there has been an hour of the time that some of those crossings have not been used.

Q. Have you known within three months of periods of half an hour when that is vacant ?

A. I have.

1171

Q. There are periods every day, are there not ?

A. There is.

Q. Of more than half an hour ?

A. I won't say of more than half an hour.

Q. Of half an hour ?

A. Well, I should judge so. I can only say this from just merely my opinion. My opinion is that it has been so. I won't say to the exact time.

1172 Q. Don't you think that there are during the day intervals of five minutes that aggregate, all told, as much as five hours a day when a train could cross there without delaying anybody?

A. Well, it depends a good deal upon the business.

Q. That is, that there are sixty such intervals during the day when five minutes can be spared to allow a Lackawanna train to pass over?

A. Well, I don't know as I can really answer that
1173 question just as you put it.

Q. Don't you think that that would be within reason, within bounds?

A. Well, it is according to the business that we do there. As I say, some days we do more, and some days less.

Q. You are doing a pretty flush business at present?

A. Not at present.

Q. Very light?

1174 A. It is light. I say light—I mean the switching.

Q. You were here Saturday?

A. Yes, sir.

Q. You have been here every day since this hearing commenced?

A. Most every day. I have been here every day, but I have not heard all the evidence.

Q. Are you down there nights?

1175 A. Sometimes I am.

Q. All night?

A. Not all night.

Q. Do you know whether the switching goes on in the night or not?

A. I know it does.

Q. All night long?

A. Yes, sir.

Q. With just as much vigor as during the day?

A. Well, I don't know whether it is as much vigor;

I know we get as much work done at night as during the 1176 day-time. My men report so to me.

Q. Do you think it keeps right up all during the twenty-four hours?

A. It does, because I have men working there during the twenty-four hours.

Q. How many switching engines have you employed there?

A. Well, there are four switching engines in the yard, but there are six hundred days a year charged up to the 1177 work at that point, the Erie transfer-house delivery of freight to and from.

Q. That makes a little less than two engines at work?

A. Well, it is over that. I took an average of that from one month.

Q. What do you mean by six hundred days being charged up?

A. Over six hundred days is charged to the transfer-house and engine. We have one night and one day to do 1178 our work there.

Q. Then practically you have but two engines at work there?

A. Two engines at work doing our work. I call our work the South Shore line business. Business delivered to and received from the Erie Railway at this point. But there are other engines doing the switching down in the yard backwards and forwards, down in the yard switch- 1179 ing this freight for us.

Q. How many engines are there in the yard, all told?

A. Four, I believe, it is.

Q. Two at work in the night?

A. Four in the day-time and three in the night.

Q. Then there is only three-fourths as much work done during the night as there is during the day?

A. Well, I think there is as much.

Q. You think there is?

1180 A. I think there is.

Q. So that one engine during the day accomplishes very little, or what?

A. No, there is extra business, such as going across this proposed crossing out to the "Y" to receive cars.

Q. Your business has been pretty flush for the last two years, has it not?

A. Pretty flush.

Q. Why don't you extend that platform?

1181 A. Well, sir, to answer that question, I have been trying very hard to get our people to make a good many improvements there.

Q. And they never have seen occasion to make them?

A. They have talked it over; they say it will be done.

Q. They never have done it yet?

A. They have not done it yet.

Q. You never have commenced to extend that track until recently?

1182 A. Recently they filled all this portion in, between the end of this platform across those tracks there clear up to Sandusky street.

Q. When?

A. Last fall.

Q. Was it a trestle before that time?

A. It was a trestle before that time.

Q. And you simply filled up the trestle?

A. Filled up the trestle.

1183 Q. How long had that trestle been there?

A. The trestle has been there since the house was built, 1869; that is one of them.

Q. Have you seen any greater necessity for changes down there since the Lackawanna proposed to cross than you did before?

A. No, sir, I have not.

Q. But there has been a little more activity on the part of the company in making changes, has there not?

A. None, sir.

1184

Q. I see you are extending one track down there since the Lackawanna filed this map, are you not ?

A. Not that I know of.

Q. You don't know that you are extending any new track there ?

A. No, sir.

Q. Do you remember seeing Archibald and myself upon the spot some four weeks ago ?

A. I do, sir.

1185

Q. We had a talk with you then about the situation, did we not ?

A. You did, sir.

Q. You explained to us the stoppage of all these trains on either side of the proposed crossing ?

A. Yes, sir, I told you they stopped.

Q. On that occasion didn't you tell us that it would be quite as convenient to have your transfer-tracks on the north side of the transfer-house as the position in 1186 which they are now located ?

A. I will explain that to you ?

Q. Answer it, yes or no ?

A. Well, I cannot answer it yes or no.

Q. On that occasion didn't you tell us that it would be quite as convenient to have your transfer-tracks on the north side of the transfer-house as the position in which they are now located ?

1187

A. I didn't.

Q. What did you say on this subject ?

A. I said it would be handier to us to have the Erie Railway folks deliver us their west-bound freight on the north side of the transfer-house instead of going over onto this little dock track, that is what I said.

Q. Didn't you say that proper economical use of the lands of the two companies there, called for the building

1188 of additional tracks on the other side of the transfer-house, that is the north side ?

A. I don't really understand you.

Q. Didn't you say that it would be better for all parties to have more tracks on that side ?

A. I know it would be better for us to have the west-bound freight delivered to us on the north side, but I didn't say anything about the east-bound.

1189 Q. Would there be any objection, any inconvenience to the Erie people, to have their transfer-freight delivered over there that you know of, the freight that is going west on your road ?

A. Not that I know of ; I don't know anything about how much these cars would take, or anything about that.

Q. Didn't you tell us that the construction of new tracks on the north side of the transfer-house would do away with the necessity of what you call the Erie dock track ?

1190 A. I don't think I did ; you merely asked me the question if it couldn't be done, and I said yes, I would like to see it if it could be ; that was about the sum and substance of the question that was there at the time.

Q. Do you know who made this map ?

A. I don't.

Q. The Erie platform-track, so far as it is marked in blue, has no existence except in the imagination of the man that drew this map ?

1191 A. It has an existence somewheres in the neighborhood of forty feet southwesterly of the platform.

Q. It has no existence at the point of your crossing ?

A. No, sir, not at the present time.

Q. What proportion of your east-bound freight do you deliver to the Erie Railway ?

A. I don't understand ; the proportion of the east-bound freight from the west ?

Q. From the west ?

A. Well, that I couldn't tell you, for I never have 1192 occasion to see the figures that go to the New York Central; all I could give you would be the figures that we deliver.

Q. You do not know how many through cars of freight you have eastward-bound at this point?

A. No, sir.

Q. Have you no general information on the subject?

A. It don't interfere with me, so I don't bother my head with it. 1193

Q. Do you ever have a break in your arrangements with the Erie Road in regard to delivering them freight?

A. Once in a while we do.

Q. Sometimes when your relations are not as amicable as at this present moment, you do not deliver them any, do you?

A. I never saw the time yet when we did not deliver and receive freight from them.

Q. You have seen the time when you delivered very 1194 little and received very little, have you not?

A. No, sir; when I said I did know—sometimes the Erie Road don't want to let their cars go west, and we transfer them; and sometimes we don't let our cars go east; we transfer; that makes more work.

Q. That adds very largely to the expense of everything?

A. Yes, sir, we generally bring them to time, though; 1195 when they shut off letting their cars go west we fetch them to time in forty-eight hours, as a general thing.

Q. How many cars can you transfer there at present, if necessity called for it, to the Erie Road?

A. Well, sir, I think the biggest day's work—

Q. No, I asked how many you could transfer?

A. That is the only way I could get at it; the biggest day's work we ever did was about two hundred and twenty-five cars; we were busy all the time at it.

1196 Q. Then you think you couldn't transfer through cars bound east; how many through cars could you deliver to them at that point with your present facilities?

A. I say about two hundred and twenty-five to two hundred and fifty; that is about all that we could do, and that would keep us on that proposed crossing backwards and forwards all the time; with that amount of work, it would keep from one to two switch engines on that crossing the biggest portion of the time.

1197 Q. Please explain why?

A. Those cars arrive here, and some trains will have ten South Shore line cars, other trains will have twenty; when they are in they are pulled up over the proposed crossing, and the switching done there backwards and forwards; they are thrown down onto some track in the yard; they may be all thrown onto one track or separated, as the case may, just as the tracks are clear in the yard; if they are separated at the first switch, it don't
1198 require so much afterwards, but they afterwards have to be pulled out of the yard and go over the crossing again; at least they are inspected there, the crippled cars are marked "crippled"; we have some marked for the diamond track and for the house track, as the case may be, and then they are pulled up again over the proposed crossing, and switched back again wherever the case may be; if they are to go for the Hart, they go there, or for the diamond or house, whichever the case may be.

1199 Q. Suppose I send a thousand cars of grain from Chicago via the Lake Shore and Erie road—come right along together in trains of fifty cars each—that would be twenty trains of cars, how long would it take to transfer those cars to the Erie road?

A. Well, if you send them all right along—they don't bring fifty cars on the road.

Q. Then take forty cars?

A. Provided there was nothing to bother us, we

might deliver them in one-half the time or one-fourth 1200
the time, than where there is so much done.

Q. Couldn't you deliver them in a quarter of a day?

A. It couldn't be done. •

Q. If the Erie could get them all away?

A. We couldn't, not on that one track.

Q. Who is the target man at that point?

A. Well, there is a German there, I don't know what
his name is; he is there in the day-time, and I believe a
man named Ready at night; I don't know what the 1201
German man's name is, only Fred.

Q. How long has he been there?

A. A number of years.

Q. Where does he stand?

A. On the ground.

Q. By Mr. Greene: This supposed case of the
counsel is purely imaginary, is it not, about the thousand
cars made up in twenty-five trains, all bound from your
road to the Erie? Did you ever know of such an 1202
instance?

A. Never.

Q. They come here mixed, don't they?

A. Yes, sir.

Q. Interspersed along at different points in the train,
and have to be transferred?

A. Yes, sir.

Q. And no such instance has occurred, or is likely to
occur? 1203

A. No, sir.

Q. By Mr. Locke: Wouldn't it be possible to
arrange our trains at Cleveland or Chicago so that the
Erie cars in a train would be more easily reached?

A. I think that could not be done.

By Com. McAlpine: Q. Can the Erie dock track be
extended southward far enough to give the same amount

1204 of standing-room as now, namely, for twenty-six cars, southward of the proposed Lackawanna crossing?

A. I don't think it could without interfering with other tracks there.

Q. It don't show any objection on the map, and if you have any objections, I wish you would mention them?

A. I haven't been over in there in some time, but it is all filled in with buildings through there.

1205 Q. Now, on their own grounds?

A. It runs into their main track going to the dock; that is the only objection; it runs into their main track.

Q. It now runs into their main track?

A. It now runs into their main track; going to the dock.

Q. Can it be extended on and join that third track that is shown there?

A. I think not; I wouldn't say positive; but I think
1206 not.

Q. Will you please tell us any reason that you know against it?

A. Well, I think that place is all filled up with buildings close to the track.

Q. Buildings on the company's grounds?

A. No, sir; well, I am not familiar with their tracks over there; I have been over there several times, but I cannot bring them to my mind just at present, how their
1207 tracks do lay over there, in their new yards, as they call them.

By Mr. Greene: Q. The principal close work, so to call it, that you have in the transfer of through freight, is with the Central, is it not; the principal amount of transfer that you have. Your business of transferring through freight to the Central decidedly exceeds that to the Erie, does it not?

A. Oh, yes; I should judge from the number of cars 1208 passing it would be about two-thirds.

By Com. Clark: Q. Where is that switching done?

A. Well, the Central cars and the Erie Railway cars for the Central road, and the Erie road, come in all in one train, and they are switched backwards and forwards over this proposed crossing, as the case may be; the number of cars in the train, etc.

By counsel, resuming: Q. That is, two-thirds of the train would be upon the Central, and mixed up with it 1209 would be cars for the Erie?

A. Yes, sir.

Q. Where do you transfer those?

A. Well, cars on what is called the Compromise go through to East Buffalo.

Q. At a point above, north of this, but they come in indiscriminately, through cars destined for the Erie and for the Central, mixed up indiscriminately in the train? 1210

A. Yes, sir; Buffalo freight and all.

By Com. Clark: Q. By sorting out you mean you sort out the business for the Erie road at this point?

A. The business for the Erie road and Buffalo town business, and Buffalo Creek "Y" all have to be sorted.

Q. It is sorted here, and you take out the cars here at the point of the proposed crossing; you would sort out from the trains here the cars going to the Central as well as those going to the Erie? 1211

A. Yes, sir; if they were mixed in the train.

By counsel, resuming: Q. Running the Central cars down upon certain tracks in the yard, then running up, and running down again, and leaving certain Erie cars, then up again and leaving the Central cars, that is the manner in which it is done?

A. Yes, sir.

By Com. McAlpine: Q. Are there any trains on the

1213 Lake Shore road of through freight, through east-bound freight to pass directly to the Central transfer station without going into this yard for assortment?

A. There are stock trains at times, and there may be other trains, but not being the yard-master, I cannot tell you that; there may be some.

By counsel, resuming: Q. Two-thirds of the through freight that goes to the Central, that you refer to, does that pass this Lackawanna crossing?

1214 A. Yes, sir; I mean about two-thirds of the cars passing that crossing are destined for the New York Central.

Q. This is the main line, and all the cars have to pass this crossing to communicate with Cleveland and the west.

A. Yes, sir.

By Com. McAlpine: Q. Do any trains pass through to the Central transfer without going into this yard, and
1214 remaining there for transfer?

A. There is some, but how many I can't say.

By counsel, resuming: Q. Is it a small, or a considerable portion?

A. It is a small portion, as far as I know.

Q. How do they get to the Central?

A. They run down on some of those tracks here.

Q. Run down into this yard?

1215 A. Into the yard, yes, sir; but he asked me the question whether they are assorted or not; they run into the yard, and stand there, and are pushed over the hill; a few trains; I don't know how many it would be.

By Com. Clark: Q. All eastern-bound freight trains over your road go into this yard?

A. All eastern-bound freight has got to go into that yard, and all western-bound freight has got to go through it.

By Mr. Locke : Q. Is not one-tenth of your tonnage 1216
live stock ?

A. Which tonnage do you mean ?

Q. Is not one-tenth of your tonnage live stock ?

A. I don't know, I couldn't answer that, because I
haven't anything to do with live stock.

Q. Do you deliver any live stock to the Erie road ?

A. That is all done at East Buffalo, unless it would
be a car of horses, or something of the kind.

Q. Do you deliver any petroleum to the Erie road ? 1217

A. We do, tank cars.

Q. Do you deliver coal ?

A. We do.

Q. What proportion of your coal that comes to Buf-
falo do you deliver to the Central ?

A. I couldn't tell you, I haven't any idea.

Q. It is nineteen-twentieths, is it not ?

A. I don't know anything about it, I never saw any
of their figures there. 1218

Q. Your coal cars come in coal trains, do they not,
as a general thing ?

A. We have no regular coal trains on the road.

Q. Have you regular stock trains ?

A. Yes, sir.

Q. And all your stock trains goes to East Buffalo ?

A. Yes, sir.

Q. You delivered bituminous coal to the Erie Rail-
way here ? 1219

A. Soft coal, yes, we do some.

Q. To any considerable extent ?

A. Not very large.

Q. Do you deliver any considerable amount of
petroleum ?

A. At times we do ; it is like everything else, it gets
to running at times.

1220 Q. As a general thing your petroleum goes to the New York Central?

A. Not all; in June, I think we gave two hundred and seventeen cars to the Erie, I think it was that, or something like that.

By Mr. Greene: Q. State whether or not it is very seldom that a train arrives from the west, a freight train, that is composed entirely of cars destined for the Central, or whether it is not almost the universal rule
1221 that cars destined for the Central and Erie are mixed in the train?

A. From what I can see and observe by sitting there around the upper end of the yard, at this crossing there, there is very few trains, very few that comes that is made up of a full train for the New York Central; there is more or less of change on all trains.

Q. Do most trains, a very large proportion, and nearly all the trains that arrive from the west with freight,
1222 contain cars that are to be distributed to these various points, to the town, that is Buffalo, the South Shore, the Buffalo Creek Railroad, the transfer-house, the place where ice is put in the cars, to the company's coal, the New York and Philadelphia Railway, the Central Railway, the stock-yards at East Buffalo, the rolling-mill, and to weigh, to those different points?

A. In answer to that question I would say that there is very few trains, except the live stock trains, but what
1223 has freight for some of those points you mention.

Q. More or less of them?

A. More or less of them.

Q. Averaging half of them, or thereabouts?

A. No, I won't say half.

Q. Well, several of them?

A. Several of them.

Q. Trains usually contain cars destined for several, at least, of those different points?

A. Yes, sir.

1224

Q. How many divisions have to be made in the trains on the average for the year?

A. I could not hardly answer that question, because there is a good deal of that work done that I do not see; my business is in the house and out of the house, and in general all around in that vicinity, and what I would see would be just from observation, as you would yourself going by; it don't interfere with my business at all.

1225

RICHARD G. TAYLOR, sworn for the petitioners, and examined by Mr. Milburn, testified as follows:

Q. What position do you occupy now?

A. Superintendent of the Buffalo division of the New York, Lake Erie and Western Road.

Q. The duties of that position involves your having charge of the railway in that division?

A. Yes, sir.

Q. How many miles of railroad of the Erie Railway are under your charge?

1226

A. About three hundred miles.

Q. How long have you been connected with the railway business?

A. About thirty years?

Q. You began as what?

A. I began as messenger boy.

Q. And you have passed through the various stages to be superintendent of the Erie at this point?

1227

A. Yes, sir.

Q. During the whole of that time your duties have been connected with either the Erie Railway or other railways?

A. Yes, sir.

Q. The locality in question here is part of the railroad under your charge so far as the Erie tracks are concerned?

1228 A. The crossing of the Lake Shore ?

Q. The crossing of the Lake Shore ?

A. Yes, sir.

Q. Your headquarters are at Buffalo ?

A. Yes, sir.

Q. Are you not well acquainted with the locality of this transfer business between the Lake Shore and the Erie, and the method of doing business there ?

A. Yes, sir, I am perfectly familiar with it.

1229 Q. Do you also know the point of the proposed crossing of the Lackawanna road ?

A. Yes, sir.

Q. You are also aware that the crossing that the Lackawanna people propose there, is a grade crossing ?

A. Yes, sir, I have heard that that was the proposition.

1230 Q. Will you state to us, in your own way, what objections occur to you to a grade crossing at that point, in reference to the business of the Erie and Lake Shore Railways ?

A. The great danger is in the liability to accidents, and the delay to the business generally.

1231 Q. From your knowledge of the business transacted at that point, what would be your opinion more at length as to the practicability of carrying it on with a grade crossing by the Lackawanna just as proposed by it, the interference with your business, and what that would result in ?

A. The interference would result in great delays and inconvenience in doing the business there.

Q. Would you regard it as a serious question as to whether that transfer business could be carried on ?

A. It would be, sir, a very serious question, with the amount of switching they have got to do over those crossings to get to the transfer-houses, also getting over and delivering to the Lake Shore.

Q. Can the dock track be extended southerly far 1232 enough to give the same amount of standing-room as now, twenty-six cars, southward of the proposed Lackawanna crossing?

A. That would be to extend this track down this way.

Q. Yes?

A. In doing that we would have to lose the use—we would have to run down here with the freight and cross-over and shove the freight back in, and in doing that we would lose the use of one track there, which would be a 1233 pretty serious thing for us.

Q. Let me get that a little more fully; this third track of the Erie, southwesterly of the proposed crossing, is what sort of a track?

A. It is a store track that we take the freight over, and stand it on that until we are able to move it ahead into the freight house.

Q. The two tracks above that are your main tracks? 1234

A. Yes, sir.

Q. The dock track, as it is now, runs into your main track at the point indicated on this map?

A. Yes, sir.

Q. If the dock track were continued, as suggested in the question, you would have to run it into the side or store track?

A. Yes, sir; then we would have to run down further to near the point of Louisiana street, and cross over to get into that track, losing the use of that siding all 1235 the way through there.

Q. That is, if you did that you would destroy the use of the side track for storing purposes?

A. Yes, sir.

Q. And trains that were run into it from the dock track would then have to be carried southerly, or a considerable distance on that side track, and then be switched into the main track?

1236 A. Yes, sir ; if we are coming over here from the east with a train, we use that track to do it on, and follow down and pass in on this siding, letting the engine stand here, and she comes around and gets on this track, and then these cars are distributed on that track ; if we extended this dock track down here, and ran down into that we would lose the use of that track for the purposes for which we are using it now ; in other words that would have to be kept open in order to get in there.

1237 Q. By Com. McAlpine : That is not precisely the question ; it is, can this track be extended far enough south here, and unite substantially with that track, or any other means to hold twenty-six cars southward from the Lackawanna crossing ?

A. I say it can be done by running down and connecting with that track ; we would not want to connect those two main tracks with it, for there would not be room to go in without interfering here ; in order to make
1238 that available we have got to go down below and put in those cross-overs ; you have got to take up the room here for your leads and cross-overs, which would run it down considerably below this.

By Mr. Milburn, resuming : Q. As I understand it, taking the situation as it is, and the necessities of your present business, in your opinion it is not practicable to extend that dock-track so as to give room for twenty-six
1239 cars south of this proposed crossing ?

A. No, sir, I don't see how we could really spare the room to do it with ; we have got that track so arranged that we take what we call a string of freight and just hold it, what we would pull from east Buffalo, getting in there and getting back again, and it would spoil our whole arrangement there by changing.

Q. This point at the present time is very much occupied, is it not, in the distribution and assortment and making up of trains at the present time ?

A. Yes, sir, I presume there is a train over that cross- 1240
ing on an average every ten minutes.

Q. Which crossing ?

A. Over this crossing of the Lake Shore and Erie,
it will probably average a train there every ten minutes ;
we wait now there sometimes from ten to thirty-five
minutes, waiting to get the crossing so that we can get
across.

Q. Just state more about the delays that you have at
the present time from the crossings that you have, just 1241
as they are now, and make a full statement as you can ?

A. I made it about as full as I could make it.

Q. Do you delay the Lake Shore trains ?

A. Yes, sir.

Q. And at times how much ?

A. From fifteen to thirty-five minutes.

Q. During such a delay, this process of switching at
this point is suspended ?

A. Yes, sir, the Lake Shore trains passing there, 1242
their switching is stopped, and ours is stopped.

Q. In your busy times, Mr. Taylor, what is the effect
more generally of these delays upon your business and
the Lake Shore business, if you know it, in reference to
there being blocks in the business here, and accumula-
tions ?

A. The more business we are doing, the more trains
we are having over there, the more delays we have, of 1243
course.

Q. Is it not a fact, that in busy times now, with the
delays that there are at that crossing, there are serious
blocks and accumulations in the business at Buffalo ?

A. Yes, sir.

Q. Is this one of the points to which you attribute a
good deal of importance in these blocks that do occur ?

A. Yes, sir, it is a very important point ; we have
probably more complaints on the Lake Shore road, and

1244 the Lake Shore road from us in regard to that crossing, than any other crossing we have, on account of more business.

By Com. McAlpine: Q. Complaints from delays?

A. Yes, sir, we get to the crossing, for instance, and something will occur to stop us twenty or thirty minutes, and the Lake Shore road have a train waiting to go over, and that is reported to the superintendent, and the superintendent comes to me for it; we have them back and
1245 forth every day or two.

By Com. McAlpine: Q. These same complaints would occur if your company owned both roads?

A. It would be probably the same thing if we had them both.

By Mr. Milburn, resuming: Q. Take it in your busy times when you are seriously obstructed here, what accumulation of cars will you get in the city of Buffalo?

1246 A. Cars standing in the yard?

Q. Yes, waiting to go off?

A. You mean the whole business? -

Q. Yes?

A. Oh, I should say the largest number of cars we have had here at one time is from three to four thousand in the city.

Q. Have you known, at the same time, that the Lake Shore was also blocked up with cars?

1247 A. I have known that they have been blocked up with cars waiting to deliver to us; at one time that they have had as many as seven or eight hundred cars waiting to deliver to us.

Q. What was the reason that they were not delivered to you, any particular reason of delays at this crossing?

A. I could not say that it was on account of the crossing, but it was general blockade of business, you know.

Q. In this blockade of business that occurs the delays

at this crossing, are they not, a serious and constant 1248 element?

A. Yes, sir; they are a very serious cause of delay.

Q. What would be the effect upon that condition of things to have another railroad crossing there in such a way that when one road is using a crossing the business of both of the other roads is entirely suspended at that time?

A. It could not be otherwise if the Lackawanna was passing a train over that crossing, the other two roads 1249 would have to wait until they got by, if we were passing a train over both roads would have to wait for us, and the same way with us.

Q. Can you give us any details about accidents, Mr. Taylor?

A. Accidents on grade-crossings?

Q. Yes, at such a place as that, or at other places that you know within your experience?

A. Yes, sir; on the Buffalo Creek crossing of the 1250 Lake Shore road we have had in the last three years two accidents.

Q. Passenger or freight trains?

A. One of them was a passenger train.

Q. Accidents due to what?

A. Due to misunderstanding by men taking signals from targets. On the crossing of the Buffalo, New York and Philadelphia since I have been here in the last nine 1251 years we have had four, two of them very serious accidents.

Q. Freight or passenger trains?

A. Two of them were freight and two passengers. One of those accidents I think cost the Buffalo, New York and Philadelphia and Erie together about twenty-three thousand dollars.

Q. What more?

1252 A. On the Lockport crossing of the New York Central. We have had an accident at Tonawanda.

Q. When was that ?

A. It was within three years, I could not recollect the date exactly.

Q. Was that passenger or freight ?

A. It was freight, on the Lewiston crossing at Suspension Bridge ; we have had two.

Q. Within what time ?

1253 A. In the last five years.

Q. Were those passenger or freight ?

A. That was freight. At Batavia we have had two in the last six years.

Q. What crossing is that of the Erie and Central ?

A. In the village of Batavia, of the Erie and Central. One of those was freight and the other was passenger. We have had three there, two passenger and one freight in the last six years.

1254 Q. Any more ?

A. That is all that I call to mind now. We have had small accidents, but those are matters that are principally in my mind as being pretty serious things.

Q. In those where there were accidents to passenger trains, did they result in injuries ?

A. Yes, sir ; we have had two on the Buffalo, New York and Philadelphia, which resulted in injuries.

1255 Q. Injuries to passengers ?

A. Yes, sir.

Q. Are there frequent injuries to train-men and employes at those crossings ?

A. Well, I cannot say that there is anything outside of these cases that I have mentioned. Train-men usually get off a little better than passengers do.

Q. Now, you say that in addition to these, small accidents have occurred from time to time ?

A. Yes, sir.

Q. What have been the nature of those? 1256

A. Oh, they get too close to a crossing and the cars would strike each other and break a car or throw it off the track, or something of that kind.

Q. Is that quite a common occurrence?

A. Well, I won't say it is common, but probably in the last two years, take it on the New York Central, and the Buffalo, New York and Philadelphia crossings of our road we have had, I will say, half a dozen of such accidents. 1257

Q. Resulting in injury to rolling-stock and freight?

A. Yes, sir; there is another case that we had occur on the Lake Shore compromise crossing where one of our engines took steam and got away and ran into a train and stove it to pieces.

Q. When was that?

A. That was about four years ago, I should say.

Q. Now at points on your road, I call to mind one, where tracks converge into one track, is the use of that one track regulated by the target just as the crossing is here, or a signal? 1258

A. I don't know that I understand you.

Q. Where two different railroads form a union and run onto one system of tracks is the use at the point of junction regulated by signals or targets just as a crossing is?

A. By a target. 1259

Q. At such a point as that have you had accidents?

A. Yes, sir.

Q. Will you tell us about those?

A. At East Buffalo we have a junction with our Falls branch, and we have had within the last five years there probably two or three just such accidents as that where trains come together.

Q. Passenger or freight?

A. Those were freight, at the junction of our Inter-

1260 national branch, near Main street; we had quite a serious accident there within six months, mistaken signals, and the freight train ran into the side of the passenger train and tipped the passenger train over.

Q. And several passengers there were injured?

A. Yes, sir.

Q. Any more that you call to mind?

A. No, I don't recollect any more now.

Q. These accidents occurred under care on your own
1261 part, both in imposing regulations, and in the selection of your employees?

A. Yes, sir.

Q. They occurred notwithstanding those?

A. Yes, sir.

Q. You can tell us, perhaps, the general fact that rolling stock, engines and cars, passing over-crossing frogs, the wear and tear is greater, is it not, than passing over the ordinary track?

1262 A. Oh, it certainly is greater on account of the wheel striking the frog; it naturally would be worse on rolling stock than it would be to roll over a rail.

Q. You know the location of the Lackawanna road in the city of Buffalo, and with your knowledge of the city could you tell us what this line would be available for, of theirs? It is the Ohio street line into the city?

A. They could make it available for anything.

1263 Q. Particularly, I mean, their passenger business?

A. I should not think they would go that way if they were going in with passengers, that it was designed more especially for freight.

Presents map to witness marked "Exhibit 4."

Q. If they were going to do a passenger business in the city of Buffalo it must be over that line, must it not?

A. I don't know anything about that line.

Q. If they were going to do a passenger business in

the city of Buffalo, must not this line be their passenger 1264
line?

A. I should say, yes, this is the first time that I have
ever seen any map of this kind. I had an idea they
were coming across here somewhere.

Q. This map, "Exhibit 4," has upon it in red the pro-
jected lines of the Lackawanna road as disclosed by their
map upon file, and taking that map this line in question
is the only one point which they could do the passenger
business into the city of Buffalo? 1265

A. Yes, sir; I should say so.

Q. That will also be the line of their city freight,
wouldn't it?

A. Yes, sir; the only one they would have for it.

Q. And of their coal business; is that not so?

A. Yes, sir.

Q. Now, the Lackawanna people have pretty large
coal trestles down near the terminus of that line, have
they not? 1266

A. Yes, sir.

Q. Do they come from a coal region?

A. The Lackawanna road?

Q. Yes, sir?

A. Yes, sir.

Q. There is a large coal business now in the city
of Buffalo, is there not?

A. Yes, sir.

Q. Can you, from anything that you can observe 1267
about the location of business, etc., with all the knowl-
edge you have, see the necessity of the two lines, "A"
and "B"?

A. No; that is what I was studying; I can't under-
stand it; I don't see why they want it. If they want a
double track coming around here, I don't see what they
want of that line there.

1268 Q. That is, they have line "B"; you don't see why they want line "A"?

A. No, sir.

Q. And with the knowledge that you have, with line "B" you would see no necessity at all of line "A"?

A. No, sir.

Q. The Erie Railway Company, as we call it here, is laying a double track, an additional track at this point at the present time, is it not?

1269 A. Yes, sir.

Q. Can you tell us when the laying of that track was ordered, or was agreed upon?

A. I agreed with Mr. Clark, of the Lake Shore road, I think, just about a year ago, it may have been a month later, and we went on the ground and arranged for him to shove back his tracks, and for our crossing to go in, just about a year ago. It is conceded that the first and only map of the Lackawanna, of its route in Erie county, was filed in the Erie County Clerk's office on the 19th day of May, 1881.

1270 Q. Was there any agreement between you and Mr. Clark as to changing the platform and trusses?

A. Yes, sir.

1271 Q. Then by the arrangements that you made for this double track, you would lose the use of the platform on this part of the map here colored pink, and marked "N. Y., L. E. & W. R. R. Co."?

A. I don't recollect just how many feet, but I think in the neighborhood of a hundred or a hundred and fifty feet.

Q. By this arrangement with Mr. Clark you lose that part of the platform, or the use of it from "A" to "B"?

A. Yes, sir.

Q. Now, how were you to recover for that part of the platform that you use—what were you to do? 1272

A. You would have to put more business through this house, that is all; we would lose that.

Q. What I want to get at is, was there any agreement as to the extension of this platform in this direction?

A. I don't recollect whether there was or not.

Q. Now, Mr. Taylor, what has been the reason of the delay in not getting it put in there—not getting the double track put in there? 1273

A. Well, it was to have been completed last fall, but if you remember what an early fall we had, and how everything froze up on us, you will know pretty near why we didn't do it last fall, and this year we have been so busy with so much construction that we have not got at it; the crossing for frogs have been made last fall.

Q. The crossing frogs were made last fall for the additional crossing? 1274

A. Yes, sir, we had our winter commence here, you know, about the middle of October, and Mr. Clark had commenced to fill up here on his tracks and suspended that on account of the weather.

Q. What part of this was deranged to fill up?

A. Well, you see that track—

Q. Call it Hart track?

A. That stands on trestle work; it stands up high for the purpose of transferring grain and coal, and such things as that to what we call the low grain track; the plan was by Mr. Clark to go to work and fill this up through here, and bring that low grain track up to grade with the Hart track; that is also a high track; that would put all of those tracks on the same grade. 1275

Q. That would put the Diamond and low grain and Hart track on the same level?

A. Yes, sir.

1276 Q. What was there about this culvert—was it made necessary, the extension of that culvert?

A. There has always been an open water-way there.

Q. I will ask you if the culvert for the embankment of the double track which has recently been put in, if it was extended last fall?

A. I think it was, yes, sir.

Q. On his part of the arrangements then—you say Mr. Clark had been working last fall?

1277 A. I think he commenced to fill up those tracks last fall, and suspended on account of the weather.

Q. What is being done now in pursuance of that arrangement with Mr. Clark?

A. The same as we agreed upon last summer.

Q. How is the business of the Erie at this point just now, Mr. Taylor, running light or heavy?

A. Just now we are light.

1278 Q. For how long past have you been running light?

A. For the last ten days; the rates are considerably demoralized now.

Q. Through the rates being demoralized?

A. Yes, sir.

Q. Has that taken off a large part of your business?

A. Yes, sir.

Q. Through the grain coming through all rail?

1279 A. Through the grain coming through all rail, and there is a good deal of moving by canal.

Q. Your grain trade is what you get from your own elevator?

A. Well, we get from the Niagara Elevator; we get about as much from the Niagara Elevator as we do from our own.

Q. All that part of the business is running very light just now?

A. Yes, sir; in the month of June we handled a very little over two million bushels from our own ele-

vator and the Niagara ; this month we won't probably 1280
handle over a million.

Cross examination, by Mr. Locke :

Q. Did you ask the Lake Shore permission to put in
that new crossing?

A. Yes, sir.

Q. Was anything said about an over-crossing, putting
in an over-crossing there?

A. No, sir.

1281

Q. Did they not ask it?

A. No, sir.

Q. The subject was not mooted at all?

A. No, sir.

Q. Do two crossings or a double-track crossing at
that place facilitate your business?

A. Yes, sir.

Q. Then a double-track crossing of the Lackawanna
would be more desirable than a single crossing, wouldn't 1282
it?

A. I don't think a double-track crossing would be
any objection.

Q. Any more than a single?

A. No, sir, only the wear and tear of the machinery
and cars ; I don't think the delays would be any greater.

Q. Would it lessen the delays?

A. I think it would, yes, sir.

Q. So that it would be more desirable in fact than a 1283
single one?

A. Yes, sir, I think it would.

Q. You were speaking of accidents at grade-cross-
ings ; I don't suppose you can operate a railroad with-
out encountering accidents, can you?

A. I don't suppose that there is any such thing.

Q. Without going to expense which is impracticable,
you could have Miller couplers and buffers on your

1284 freight cars, could you not? they could be adjusted to freight cars, couldn't they?

A. Yes, they could be.

Q. I see that in 1878 you reported eighty-six persons injured from one cause and another on the Erie railroad?

A. Yes, sir.

Q. From one end of it to the other; and that twenty-five per cent. of those injuries were sustained by brakemen
1285 coupling cars; did you ever contemplate the feasibility of putting in self-couplers on your freight cars?

A. Yes, sir; that is a subject that has been considered very carefully.

Q. Why didn't you do it?

A. Well, I will tell you the reason; you take a train of forty cars on our railroad, and it would probably be composed of stock from twenty-five different roads, and in order to make a thing of that kind feasible you have got
1286 to have all the roads in the country adopt it, and it would be pretty hard to do that.

Q. If other railroads should adopt it, would you think it was desirable?

A. Yes, sir.

Q. So you do not set that example?

A. Well, we could not set the example; for instance, the Lake Shore road; if we should go to work and make our cars so that they could not couple on them,
1287 what could we do?

Q. You can couple an ordinary car with a Miller coupler?

A. Yes, sir, but you are increasing the danger of accidents.

Q. By doing it?

A. By doing it; yes, sir.

Q. You have a grade-crossing of your main line into town with the Central Line, have you not?

A. Yes, sir. 1288

Q. You also cross the transfer tracks between the Lake Shore and East Buffalo?

A. Yes, sir.

Q. How many trains run into your Erie depot here in a day?

A. We have about forty-eight passenger trains I think coming in.

Q. How many run out?

A. The same number. 1289

Q. So there are ninety-six trains passing that point?

A. Yes, sir.

Q. Mr. Milburn: Forty-eight in one day?

A. Taking all the branches, the Great Western and Grand Trunk.

Mr. Locke, resuming: How many run over the Central?

A. Not this crossing, you understand.

Q. I mean the grade-crossings of the main lines. 1290

Q. How many run out of the Central depot from that crossing in a day?

A. I don't know; they haven't as many, because they use their route-line around the city.

Q. They have thirty or forty each way?

A. I should say not quite as many as that.

Q. Twenty-five?

A. I couldn't tell you.

Q. All their through east-bound freight, and all their through west-bound freight passes over these transfer tracks, doesn't it, which goes by the Lake Shore and New York Central? 1291

A. Yes, sir.

Q. That is a very large tonnage, is it not?

A. Yes, sir.

Q. How many accidents have you had on your pas-

1292 senger line into town from collision, at the points of crossing, in the last five years?

A. I couldn't just exactly tell you the number; I have mentioned the ones of the most important.

Q. I mean with the New York Central; you did not mention any?

A. At the New York Central crossing?

Q. Yes.

A. We have had one accident with the New York
1293 Central on the New York Central crossing, by which we tipped over an engine and a coach for them; I think that was about a year ago, and we have had minor accidents to freight trains; in one case, I think two years ago last winter—

Q. At the intersection of your passenger tracks?

A. Yes, sir.

Q. Was there a freight train hurt there?

A. Yes, sir.

1294 Q. Do your freight-trains run in over that track, too?

A. Well, our freight-house is located near the crossing there.

Q. So that all your city freight goes out over that crossing?

A. All our city freight goes out over that crossing.

Q. How many cars does that average?

A. Well, we probably handle seventy-five to a hundred cars each way per day.
1295

Q. Besides all the passenger cars?

A. Besides all the passenger cars.

Q. I suppose you have contemplated putting in an over-crossing there, have you not?

A. No, sir.

Q. You have not?

A. No, sir; at least I have not; I haven't heard of anything of that kind.

Q. You cross all the streets in town except one, at

grade, don't you ; all the streets in the city you cross at 1296
grade except one ; all that you do cross I mean ?

A. I don't know that we have any over-crossings on
the streets.

Q. I thought you had one at the trestle on the Falls
road ?

A. Is there a street under that trestle ?

Q. I thought there was ?

A. It is new if there is.

Q. I thought you crossed William street ? 1297

A. No, we end at the foot of Batavia street—start at
William and end at Batavia.

Q. You have a good many accidents at street cross-
ings, do you not ?

A. Yes, sir.

Q. You have a good many at highway crossings along
up and down your road ?

A. Yes, sir.

Q. The majority of accidents on your road that are 1298
matters of accidents, are at highway crossings or at street
crossings, or from injuries received by your brakemen in
handling the cars, are they not ?

A. I should say that the majority of our accidents
were to employees in coupling and such things as that.

A. Now, the quantum of accidents chargeable to
grade-crossings, therefore, is very small, is it not, on the
average ?

A. Well, I don't know, Mr. Locke. 1299

Q. You were sworn, were you not, on the application
of the Erie International road to cross the New York
Central track at Black Rock ?

A. No, I didn't get into that.

Q. You were sworn on the case at the Falls then, at
the Suspension Bridge case, were you not ?

A. I don't remember, I have been in so many of
those cases.

1300 Q. Did you not swear in substance that in your judgment a grade-crossing was perfectly practicable?

A. It is practicable in a case of that kind.

Q. And could be operated without any serious element of danger?

A. I don't remember of testifying to anything of the kind.

Q. What did you testify in regard to that point, in regard to the attempt of the Lockport road to cross the

1301 New York Central?

A. I couldn't say.

Q. Didn't all the New York Central men come up and swear that it would ruin a road to have a grade-crossing, and it was so dangerous and so liable to accident?

A. I don't know whether I testified there or not.

Mr. McMillan: Q. There was no testimony taken in that proceeding at all.

1302 Q. Now, you are interested in the Buffalo Creek road to some extent?

A. I am superintendent of the Buffalo Creek railroad.

Q. You have a grade-crossing there of the main line of the Lake Shore?

A. Yes, sir.

Q. Are there a great many accidents there?

1303 A. Yes, we have had two there within a year.

Q. Serious ones?

A. One was serious, we ran into a Wagner drawing-room car with a freight train, and the freight train broke in two.

Q. Have you ever contemplated making that an over-head crossing?

A. No, sir.

Q. Why don't you make that an over-head crossing?

A. I have not got the say about it.

Q. You are general superintendent of the Buffalo and 1304
Southwestern now?

A. No, sir.

Q. That is not in your division?

A. No, sir.

Q. Have you ever been down on the Manhattan
Beach road?

A. No, sir; oh, yes, I have been on the Manhattan
Beach road.

Q. Down to Coney Island?

1305

A. Yes, sir.

Q. That does a pretty large passenger business, don't
it, at seasons of the year?

A. I don't know that I ever rode over the road, I
have been down to Coney Island.

Q. You know that the road carries as many passen-
gers as any road in the country, don't you?

A. I should judge it did, but I don't know it for a
fact.

1306

Q. It runs loaded trains every twenty minutes in the
season, don't it?

A. Yes, sir.

Q. Do you know how many grade-crossings that road
has?

A. I do not.

Q. You have had three or four thousand cars, you
say, blocked in Buffalo; I suppose that is snow
blockade?

1307

A. Snow and business both.

Q. That is this last winter?

A. Oh, I don't speak of last winter particularly; but
we have had freight blockaded here.

Q. That takes in all your immense yard in this city?

A. We have sixty miles of siding in our yard in this
city.

1308 Q. You do not shovel the snow out so that you can get your cars, and you get blocked up?

A. There are times we cannot dispose of our coal, and there are times when we cannot dispose of our grain.

Q. Supposing that your simple object at this point was to get storage-room for twenty-six cars, is there any trouble in getting storage-room for twenty-six cars on a track laying on your right of way?

1309 A. It has got to connect.

Q. You could get a track in [there that would stand twenty-six cars without?

A. We come down here on the west-bound track and we have got to disconnect all those things there and move them up and start in here, or else run this track down below, and commence in here and come over the cross-over, losing the use of that siding there.

Q. For a certain distance?

1310 A. For a certain distance.

Q. There is no impossibility in shifting tracks?

A. We take a train of forty cars for East Buffalo and pull over here and run into that track with it, that holds just about the train, now if you go to work and shorten up that track, we are going to reduce our train service very materially.

Q. You could take a run across and connect with the next track?

1311 A. You would still spoil the use of the track.

Q. If the cars happen to be standing there?

A. Yes, sir.

Q. For the simple purposes of storage you could make a stub track there that would answer?

A. No, sir, you don't get my idea.

Q. Yes I do.

A. We pull down a freight train from East Buffalo,

and pull it in on that, and let the engine go out at the 1312 other end.

Re-direct examination, by Mr. Milburn :

Q. With these accumulations of business that occur and all the freight and railroad business that is transacted in the city of Buffalo, it is very important, is it not, with your existing road, to obviate any other serious cause of obstruction ?

A. Yes, sir.

Q. Such as this grade-crossing would be ?

1313

A. That is one object Mr. Clark and I had in getting together, was to relieve the pressure on those crossings, they felt it as much as we did, and we arranged this meeting in order to get additional facilities for getting through there.

Q. It would relieve the pressure at that point ?

A. It would relieve the pressure at that point.

Q. Of this proposed Lackawanna crossing ?

1314

A. Yes, sir.

Re-cross examination, by Mr. Locke :

Q. Do you deliver any freight here at the International bridge ?

A. Yes, sir.

Q. About what proportion of your west-bound freight goes by the International Bridge, that is, that leaves Hornellsville ?

A. Of our through rail business, I should say that there was from fifty to sixty per cent. of our business goes by the International Bridge. 1315

Q. How much goes by Suspension Bridge ?

A. A very small proportion, we do nothing by Suspension Bridge except our Canada local business.

Q. Do you send any through freight here by the Buffalo and Southwestern ?

A. We are doing quite a trade with the southwest,

1316 by the Buffalo and Southwestern ; Pittsburg, and that country.

Q. What proportion of the freight that leaves Hornellsville that goes by the Atlantic and Great Western ?

A. I couldn't tell you, sir.

Q. A pretty large percentage ?

A. I know as little about the Western division as you do.

Q. How much of your west-bound freight goes by 1317 the Lake Shore railway, about what per cent. ?

A. I should say from thirty-five to forty per cent. of our rail business, that is only a guess of course.

Q. What proportion of your west-bound freight goes by water ?

A. Well, you are getting me kind of mixed, I was simply speaking of rail business, what is divided between the different rail lines, take the business that comes into Buffalo over the Buffalo division, and during the season 1318 of navigation, I should say that there was including the coal business sixty to seventy-five per cent. of our business went by lake.

Q. Of all your business ?

A. Yes, sir, including the coal business.

Q. You spoke about the respondent in this case owning large coal trestles, do you know who the respondent is in this case ?

A. No, I don't.

1319 By Mr. McMillan: Q. Do you know that the Delaware, Lackawanna and Western owns those coal trestles ?

A. Yes, sir.

By Mr. Locke resuming: Q. You understand that this is an extension of the Delaware, Lackawanna and Western ?

A. I don't know anything about the Delaware, Lackawanna and Western.

Q. What company do you understand is trying to 1320
cross those tracks down there?

A. The New York, Lackawanna and Western.

Q. Where do you understand it extends from?

A. From Binghamton.

Q. You don't know that that company owns any
coal trestles, do you?

A. I don't know anything about it.

Re-direct examination, by Mr. Milburn:

1321

Q. What track was first laid there, if you know, the
Lake Shore or Erie?

A. I couldn't tell you.

Q. Were all those grade crossings in the city of Buf-
falo that Mr. Locke mentioned or the majority of them
and especially the important ones now made when the
business of this road was vastly less than it is now?

A. Yes, sir.

Q. Made in its infancy?

1322

A. Yes, sir.

Q. And the whole railroad system has grown up
around the facts as they were found around the tracks
and crossings as they existed?

A. Yes, sir.

Q. When was the junction line of the road projected,
the Erie Junction line?

A. The Erie International?

Q. No, the Erie Junction, the Falls line?

1323

A. That was built in 1869.

Q. Now, when you came to build that you went clear
over the heads of the Central track?

A. Yes, sir; we did not stop to ask any questions, we
went right over them.

Q. Went right over them on a trestle, on three thou-
sand feet of trestle?

A. Thirty-seven hundred feet, I believe.

1324 Q. That is right in the city of Buffalo?

A. Yes, sir.

Q. What are the grades there?

A. I think it is one foot to the hundred; I am not sure about it, it is about that anyway.

Q. On each side?

A. Yes, sir.

Q. Is part of it also on a curve?

A. Yes, sir.

1325

Re-cross examination, by Mr. Locke :

Q. The projectors of that road had made a contract with the Great Western Road to connect with the Great Western Road in a certain specified time, hadn't they?

A. I don't know.

Q. Didn't you so understand the facts to be?

A. No, sir.

1326 Q. Did you not understand that that road had to be completed to the International Bridge within a certain specified time—a limited time?

A. No, sir.

Q. To carry out a contract between the Erie——

A. I don't know anything about it; because it was the year before I came there.

Q. Didn't you know of their paying twenty and thirty thousand dollars for land that was worth four thousand dollars rather than to——

1327

A. I don't know anything about the road at all, because it was completed the year before I came there.

Q. Then you don't know whether they went over the New York Central?

A. I know they couldn't wait for the delays, and wouldn't wait.

Q. They could not; could they?

A. I don't know, they probably could not.

Re-direct examination, by Mr. Milburn :

1328

Q. That is merely what you heard, is it not?

A. Yes, sir.

Q. I want you to explain one answer as to whether you meant that these freight blocks that we have referred to were the result of a snow blockade or whether that was only one element in several?

A. The snow blockade was only one; we will be short of vessels and cannot get rid of coal, and get an accumulation of two thousand barrels and that blocks 1329 the yard up and we cannot handle the current of business; again, we will be full of grain to New York and we cannot shove the grain out, and we have got to ask the Lake Shore to hold back on it, and they will hang on as long as they can, and the consequence is we will have ten to fifteen hundred cars of grain here.

Q. Then when there comes a movement of freight is it not that all your terminal matters are limited and circumscribed by these various things? 1330

A. We have our tracks all filled up.

Q. And by those various crossings which delay you in making up your trains and distributing them?

A. Yes, sir; all trains in that direction.

Q. You were here when the International Railway was projected, that is the junction road to the bridge?

A. Yes, sir.

Q. Do you know that the award of the commissioners 1331 was so large in that case that they had to avoid the crossing entirely—to change their line at that point?

A. They changed their line entirely and went outside of the Central road.

Q. That was because the commissioners imposed such onerous conditions?

A. We crossed the New York Central at Black Rock a good deal the same as this crossing.

Q. And the commissioners imposed such onerous

1332 conditions upon you that you had to change the line and go around?

A. Changed the line and went around.

Q. Mr. McAlpine: Did the witness say that the Erie Railway crossed at this bridge that you referred to under the same conditions?

Witness: They proposed to cross in just about the same sort of way as this crossing; there the approach to the bridge was so short we couldn't get an over-crossing.

1333 Mr. Milburn, resuming: Q. You know that there are quite a number of railroads projected in the city of Buffalo to-day?

A. Yes, sir.

Q. Do you know how many grade-crossings are proposed altogether by these various roads?

A. No, sir.

Q. You have heard of a large number?

A. Yes, sir.

1334 Q. At all points of your road?

A. Yes, sir.

Examined by Com. McAlpine:

Q. What proportion of all the delays at this crossing of your road with the Lake Shore occur from the interruption of the crossing by the switching and by the business, which do not otherwise stop at this place, what proportion is there between the switching and the through passenger?

1335 A. You mean the number of cars moved over this crossing that do not stop at the transfer?

Q. You spoke of a great many delays occurring at this crossing by the occupancy at the crossing of the Lake Shore Company, and by your occupation of it; now what proportion of all those delays occur from the switching of the cars from those two places, and what occurs from the regular business which passes through that does not stop at those places; in other words, how

much of these delays does the switching at this place 1336
occasion—what proportion of the whole?

A. I don't think that I could answer it.

Q. Only in a general way?

A. I know that generally we experience a great deal
of delay there, but just as to the proportions, I couldn't
answer intelligently.

Q. It is more than half, I suppose, due to the switch-
ing?

A. Yes, sir; I should say so.

1337

Q. You spoke of a number accidents that occurred at
these various crossings, in response to Mr. Locke, what
was the condition of the weather when those several acci-
dents occurred?

A. Well, the most serious accident we have had was
one with the Buffalo, New York and Philadelphia; that
was a bright, clear day; we had one the Buffalo, New
York and Philadelphia on account of a misunderstanding
of signals; I do not know, sir, that the weather would 1338
have much to do with anything of that kind.

Q. It was due rather to a misunderstanding of the
signals than to the impossibility of seeing them?

A. That is always the excuse when we have an acci-
dent of this kind; they misunderstood the signals; but
it is carelessness of course, that is all there is to it; it is
carelessness on the part of somebody; one claims he had
a signal and the other claims he had it.

Q. The grades of the two existing railroads at this 1339
crossing are necessarily at the same level at the place of
their crossing, but on the line of the Lackawanna cross-
ing of both roads there is a difference of two feet and
one-tenth; is this difference of level at this place neces-
sary, and do you propose to make it the same?

A. They are two feet above us.

Q. It is in testimony that this track is two feet higher

1340 than the other ; could this track be elevated up to that, or this track lowered to that?

A. Well, I don't know; that is a point for an engineer to decide more particularly; I have not looked at it, and never have heard the point brought up before.

Q. You spoke of a trestle crossing at East Buffalo, of the Central—what is the difference of level of the rails of the two roads at that place?

A. About twenty feet, that is, our track over their
1341 crossing is about twenty feet.

Q. The top of your rail is twenty feet above?

A. Yes, sir.

Q. Mr. Chanute testified that there should be everywhere nineteen feet clearance?

A. I think we are just about nineteen feet; there is, probably, nineteen feet of head-room there.

Q. How high is this trestle above the ground at the place of crossing?

1342 A. It runs from four to five feet to twenty feet.

Q. Twenty feet at the place of crossing?

A. Yes, sir.

Examined by Com. Clark :

Q. I would like to know your judgment, if you have any, on the subject as to whether in your judgment there will be any necessity in the near future, in view of the probable developement and increase of business on the Lake Shore and Erie, whether there would be a neces-
1343 sity of devising some new scheme of tracks to perform your business as you are now performing it, irrespective of this proposed crossing of the Lackawanna road?

A. Yes, sir; that is a question we have had up with the Lake Shore for the past year, and this was part of a plan that Mr. Clark and I agreed upon last year to give us increased facilities there.

Q. I mean any new mode than the one we have

pointed out to us on this map—new mode of switching 1344
and increasing your tracks—or removing them?

A. There has been nothing that I am aware of talked
of in regard to that; I thought by getting our double track
through there, and getting these additional tracks connect-
ing with the Lake Shore and our track at the other end,
we would be able to get along a year or two in that way;
the fact is that business on all the roads is increasing so
rapidly, that it is hard work to keep pace with it.

1345

JACOB H. LINVILLE, sworn on behalf of the peti-
tioner, and examined by Mr. Milburn, testified as fol-
lows:

Q. What is your profession?

A. Civil engineer.

Q. Will you please state briefly what your experience
as an engineer has been?

A. I have been engaged in engineering twenty-seven 1346
years; the first two years was in the service and construc-
tion of the Pennsylvania Railroad, the proposed line;
the next two years on construction of the Westchester
road, and the surveys for the Pennsylvania Railroad—
the Westchester and Pennsylvania Railroad; then I be-
came resident engineer of the Pennsylvania road, had
charge of maintenance of way, and construction of
work on the middle division for five years.

Q. How many miles are there?

1347

A. The middle division I had about 150 miles in
charge; then I became an engineer of bridges and build-
ings for the Pennsylvania road, Philadelphia and Erie,
and all the dependences of the Pennsylvania road; held
that position for two years, after which I spent two
years in constructing bridges for the Pennsylvania road;
then I became president of the Keystone Bridge Com-
pany; held that position about eleven years, and since

1348 that time I have mostly been engaged in the construction of railroads.

Q. And bridges?

A. Well, I was chief engineer of several large bridges: Poughkeepsie, Keokuk, Hamilton, Newport and Cincinnati, Stubenville, and also designed the bridges of Bellair and Parkersburg, in Ohio; designed the Newport and Cincinnati bridge, and many large bridges.

1349 Q. In your experience as engineer, have you had frequently to consider and examine into the matters of one railroad crossing another?

A. I never had a case in my experience where I was interested in a crossing, but as an engineer I have examined the matter, and formed my opinions.

Q. Had you crossings of the Pennsylvania road?

A. There was one crossing on the division which I had charge of, at Marysville; crossing the Northern
1350 Central; that was a grade-crossing.

Q. Was that the only grade-crossing on that division?

A. Yes, sir.

Q. How is the Pennsylvania road in reference to grade-crossings, free from them?

A. Almost entirely; I speak of the New York division of the Pennsylvania; there is one at Marysville or Harrisburg, where the Northern Central crosses; there
1351 is one in Philadelphia where the Pennsylvania crosses the New York division, also one at Elizabeth, N. J.; those are the only ones that I recollect on the main line from Pittsburgh to New York.

Q. Are the crossings of that line mainly over-head crossings, or is it not frequently crossed?

A. It is not frequently crossed?

Q. Are there over-head crossings?

A. I recollect one; two places, where there are over-

head crossings; in constructing the Junction road at 1352 Philadelphia, which connects the Reading with the Philadelphia, Wilmington and Baltimore road, there is an over-head crossing; at least the Junction road crosses under the New York division; that was constructed while I was on the Pennsylvania road as engineer; they have a crossing at a grade, at Philadelphia, south of Walnut street, where they cross the Westchester road; it was impossible there to make an over-head crossing; the Westchester road was constructed previous to the 1353 Junction road, and the Junction road had to pass under the street through a tunnel; and there was no room to get an elevation sufficient to carry this road over the Westchester road.

Q. You may state what the result of your experience is as to grade-crossings of important busy railroads?

A. I consider them objectionable, because they are injurious to the wheels, rolling stock, the danger of collisions at crossings, cause delays to trains; I think that should be avoided where it is practicable. 1354

Q. You heard the testimony of Mr. Hilton, did you not?

A. Part of it.

Q. Did you hear that part of his testimony wherein he described how these crossing-frogs injured the rolling stock, and also how they wore out themselves in much greater proportion than the ordinary rails; did you hear that part of his testimony? 1355

A. I heard part of it; I came in just as he was speaking of crossing-frogs; about the rigidity, the mass of metal that was in them, and the blow that the wheel received in passing over them.

Q. On that question of injury to track and rolling stock, were the reasons that he gave substantially the reasons that you would give as to this injury?

1356 A. Well, the reasons that I would give, not knowing exactly what he stated, are that these crossing-frogs, if they are at right angles, that is, if the two tracks cross at right angles, there is a very large opening that the wheel must jump over; the wheel will drop down into the opening about two and one-half inches.

Q. That is, the opening is two and one-half inches?

A. Yes, sir; from two to two and one-half inches; if the crossing is more acute, at a more acute angle, there
1357 is not so much opening of course, because the parallel lines are not so far apart.

By Com. McAlpine: Q. The opening is the same; but the width of the face of the wheel makes less of a jump?

A. Yes, sir (indicates by a diagram).

Q. By counsel, resuming: Q. The difference between a slanting-frog and the crossing at right angles is that on the slanting-crossing the wheel catches itself?

1358 A. Yes, sir; it is supported on one side almost until the time the other portion of the wheel strikes.

Q. In other words, it is more like passing a switch point?

A. Yes, sir; a switch point or an ordinary frog in a track.

Q. Anything more that you think of?

A. Well, these blows are communicated to the
1359 wheels, and they have a tendency to injure the wheels; the jar of course is communicated from the wheels and axles, and has a tendency to injure the axles, perhaps crystallize them, and cause an accident elsewhere on the road.

Q. What is the nature of that injury; you say the wheel gets a blow in going over?

A. That would produce an indentation in the wheel, probably, and communicate that jar to the axle; a fre-

quent number of those blows of course would have a 1360 tendency to crystallize the iron in the axle or break it.

Q. It has a tendency to crystallize the iron in the axle and thus tend to a breakage?

A. Yes, sir.

Q. Now, with your indentation of a wheel caused by a blow on one of these crossing-frogs, when is it subsequently manifested by the application of the brake?

A. Well, I am not prepared to say that you could see that indentation with the naked eye, but it is well 1361 known that a series of blows would wear out the wheel; a series of blows on a sharp point would roughen the surface of it.

Q. If the wheel is roughened in that way, or chipped, or indented, does not the action of the brake then become very different from its normal action on a smooth wheel?

A. It would be more apt to slide the wheel, and the consequence would be a flattening of the wheel. 1362

Q. And that is where the injury comes in, the arresting of the normal action and the break in the wheel together; this sliding, etc., tends to the destruction of the wheel?

A. I think it would have a slight tendency in that way.

Q. The crossing plates themselves and frogs, wear out much faster, do they not, than the ordinary rail? 1363

A. Yes, sir; as a general rule they have to be replaced very frequently, it depends upon the amount of traffic over them.

Q. Have you visited the locality where this crossing in question is?

A. Yes, sir; I have visited it in company with the other gentlemen last Wednesday.

Q. At the time the commissioners were there?

A. Yes, sir.

1364 Q. And have you also heard the evidence as to the amount of business that is done at that point?

A. I have heard, I believe, a greater portion of the evidence that has been given in the case.

Q. Well, you have heard particularly that evidence, have you not, as to the amount of business done there?

A. Yes, sir; I have.

Q. And from that evidence you have learned that this point of proposed crossing of the Lackawanna, is
1365 practically a part of the transfer yard between the Erie and Lake Shore railways?

A. Yes, sir.

Q. Now, as an engineer, what would you consider the inevitable results to be of a grade-crossing over all those tracks at that point by the Lackawanna road?

A. It would aggravate the difficulties there; increase the delays just in proportion to the amount of business that is transacted over the Lackawanna road
1366 that will be transacted over that road. It would also increase the injury to rolling stock; to put two additional tracks, there would be three times the injury that there would be with a single track; if there were two additional tracks, there will be three times as many as there are now; those three frogs would make three times as much injury as its passing over one set; if the Erie puts in another track, then there would
1367 be just twice as much injury if all that traffic were passed over; it would be precisely in proportion to the number of frogs put in; the last answer should be qualified on the supposition that these new frogs come in all the tracks that the other road crosses.

Q. For every track that is crossed by the Lackawanna, how many frogs will that involve?

A. Four frogs to each line of their road, if they make a double track line, it will make eight frogs.

Q. Four frogs to each track crossed?

A. Yes, sir; there are two frogs to each rail. 1368

Q. So that if there are ten tracks crossed, there will be forty frogs?

A. Forty frogs to a single track.

Q. No, that is forty frogs for a double track, is it not?

A. No, sir; if the Lackawanna makes a double track road, it will involve the use of eight frogs with every track they cross.

Q. On the Lake Shore and Erie?

A. Yes, sir. 1369

Q. Then if the Lackawanna crosses ten tracks altogether, then there are eighty frogs with a double track?

A. Eighty frogs.

Q. Now, at each of those frogs there is this opening?

A. Yes, sir; there is an opening at every frog.

Q. I mean the opening you spoke of, of two inches, etc.

A. There is one of them at every frog; speaking of the opening that a wheel drops down, there is an opening to every frog; there is a frog where each rail intersects. 1370

Q. Now, you say there are eighty openings there, then the opening is made, is it not, by the intersection of two rails?

A. Yes, sir, a single track crossing another single track. There are four intersections of four rails by each other.

Q. And at each of those intersections there is this opening that you have described? 1371

A. Yes, sir.

Q. Now, taking a car passing over that intersection, does each wheel get two blows, or one?

A. Each wheel gets two blows, because it gets a blow at every drop. Each wheel gets two blows coming across the Erie, and four coming across the Lackawanna track. It will be three times the two.

1372 Q. If the Erie is a double track?

A. Then the Lackawanna would just double the number of blows that will be received at the crossing of the Erie and Lake Shore.

Q. If the Erie is a double track, then the injury from the Erie and the Lackawanna at that point is equal?

A. Yes, sir.

Q. But from this map and the map that you have seen, the Lackawanna crosses more tracks, doesn't it,
1373 than the Erie? According to this map, "Exhibit 3," how many Lake Shore tracks does the Erie cross?

A. It appears to cross four tracks.

Q. At the proposed crossing the Lackawanna crosses how many Lake Shore tracks?

A. It crosses eight tracks, as shown by this map,
No. 3.

Q. And it crosses how many Erie tracks?

A. It crosses two; that makes ten tracks.

1374 Q. So that the Erie, at its crossings, only interferes with four tracks of the Lake Shore Railway?

A. It interferes with four tracks of the Lake Shore, and the Lackawanna as the crossing would intersect ten tracks, eight Lake Shore and two Erie, making ten in all.

Q. Now, taking this quantity of business transacted at this point on the Lake Shore and on the Erie, assuming that the Erie has about three hundred thousand cars
1375 a year passing that point, and the transfer business between those companies, and what should you say as to the effects of that crossing, a grade-crossing by the Lackawanna at that point, as interfering with business?

A. Certainly it would interfere, to a considerable extent, with the business transacted in those yards, the interchange of business between those two roads, it depends on the amount of business on the Lackawanna, and the delays they would cause.

Q. Every time that the Lackawanna got control of the 1376 crossing, it would suspend the business on all of those ten tracks?

A. Yes, sir; it must necessarily suspend business. There is no room for switching or transfer of cars while that crossing is occupied.

Q. And such a suspension of business, how as to the operation of that upon the business of important railroads at a terminus, the tendencies of it?

A. It increases the expense to the railroad compan- 1377
ies very materially; the expense goes on during all the time that business is suspended, that is, engines, and watchmen, and train men, and if delays are caused there, considerable delays to trains, it may affect operations throughout a considerable portion of the line, if delays are such as to put the trains out of time; otherwise, if there were only short delays, they can make up the time before it will interfere with trains running on schedule time. 1378

Q. From an engineering point of view, is that a state of things to be avoided in the construction or maintenance of railroads, especially of trunk lines?

A. I should think so; I would certainly try to avoid grade-crossings in the construction of railroads, particularly at such a point as this.

Q. Now, you have examined this proposed altered route by the petitioner in this proceeding, and I think you have testified to a very large experience in the mat- 1379
ter of bridge structures. I will ask you what you say as to the headway that there should be at an overhead crossing at that point?

A. Do you mean between top of the rail of the road crossed and the top of the rail of the road crossing?

Q. No; the clear headway is what I want, the usual practice?

A. The usual practice between the top of the rail

1380 and the bottom of the bridge, a clear headway of nineteen feet, I think, is sufficient in ordinary cases.

Q. What would you say as to its being not altogether an uncommon thing to have twenty feet?

A. It is not an uncommon thing; some roads require twenty feet. If cars are made higher than they now are, which is about twelve feet, I should say that there ought to be seven feet above the top of freight cars.

Q. And the ordinary freight car is now twelve feet
1381 high?

A. Twelve feet; but I understand that refrigerator cars are being made somewhat higher than twelve feet; if they are made thirteen or fourteen feet, twenty feet is not too much, because there should be ample room for a man to stand on top of a car, so that he should not be struck by the bridge; that is the only thing concerning the height.

Q. And still you say, as a common thing to-day, nine-
1382 teen feet is sufficient clear headway?

A. I never recollect being called upon to design a bridge with greater headway than that; the railway commissioners of Massachusetts require nineteen feet.

Q. To get at this point, the total elevation, what would you add to that nineteen feet?

A. If I were making a bridge for a double-track road at this point, in consideration of the fact, that is, I made a bridge with two trusses, I could reduce the width
1383 of embankment and avoid spreading of tracks, and drawing together, I would take a little more depth, take about twenty-seven inches to the base of the rail from the lower side of the girder, which would limit the clear headway, that would be thirty-one inches from the under side of the clearance to the top of the rail to be added to the nineteen feet.

Q. That would make twenty-one feet seven inches

altogether, from the bottom of the bridge to the top of 1384 the rail?

A. If I made the bridge of three trusses, we could get along with a few inches less, probably seven inches less; it would be about as Mr. Hilton stated it.

Q. But at this point, taking such a crossing as you have there, you would say that you would prefer two trusses, and give a little more depth?

A. Give a little more depth.

Q. Floor depth?

1385

Q. Yes, sir, because you would have to treat the embankment and trestle work accordingly; I think it would be cheaper to make a two truss-bridge.

Q. Taking our amended profile as it is, that would allow a clear headway of twenty feet over the Lake Shore track?

A. Yes, sir; I understand the height was taken from the Lake Shore track, which, I believe, is the high track.

Q. Now, you have examined this map, and you have 1386 examined it, have you not, with a view to determining about what sort of structures would be necessary for an over-head crossing at this altered point?

A. Yes, sir.

Q. Now, taking the structure as it will have to be, as you say would be proper for that purpose, allowing a clear headway of nineteen feet, and taking it as we have got it, allowing a clear headway of twenty feet, what extra expense, if any, would that extra foot involve in 1387 reference to the whole expenditure?

A. It would of course come on the base of the embankment, a foot deep for a certain distance, and run out to nothing; I presume it altogether would not amount to over two thousand dollars.

Q. Does it affect the two lines "A" and "B"?

A. It only affects a slight change of grade, which runs out to nothing at a short distance; it makes a little

1388 more embankment as it approaches the bridge; I think two thousand dollars would cover the additional expense; I have not made any estimate of that, but it looks to me as if that was a sufficient allowance.

By Com. McAlpine: Q. It requires a foot additional height in the bridge, and any trestle work that is put in, does it not, additional height of posts and length of braces?

A. Not for a long distance; it might run out in a short
1389 distance, it would be nothing at the end, and at the top it would be a foot, which would scarcely affect the cost of the trestle; if it were made with an embankment, it would cause additional expense, the increase is at the bottom, say three thousand yards; at a quarter of a dollar a yard, I think three thousand dollars would cover the whole; it won't make three thousand dollars difference with trestle, or anything like that; I don't think it would make three thousand dollars difference in the cost
1390 to raise that one foot.

Q. Taking that line where it deviates, both as to grade, and as to these two lines, and as to course, and what do you say, is there any engineering difficulty or trouble in the way of constructing the line called for by this line and profile, the altered line?

A. I don't consider there is any engineering difficulty whatever, it is a matter of cost.

1391 Q. It all comes down to a matter of expense?

A. Entirely.

Q. Will not the altered lines, as we proposed them, and with the elevation as proposed there, give a perfectly good working railroad?

A. It would not be quite so perfect as a straight line, but it will make a good railroad, if properly constructed.

Q. In the construction of railroads it is nothing out of common to have just the situation of affairs that there is there?

A. We frequently have greater difficulties than those. 1392

Q. That would not impress you as an engineer as a difficulty of any gravity at all to build that line just as it is proposed by the petitioner in this proceeding?

A. There is no difficulty in constructing it.

Q. It all reduces itself to a question of extra cost in building that at an elevation?

A. Aside from the other questions that may be raised in relation to it, but at that location, there is no difficulty in constructing a road that can be operated as an engineering problem. 1393

Q. Taking the purposes to which this land here is applied, this territory where these tracks are, and the increase of business, which should you say at this point was the preferable line on which to build that over-head crossing; would you say that the proposed altered line has any advantages over the line as proposed by the Lackawanna, considering them both over-head crossings?

A. Considering them both over-head crossings I would consider it easier to construct the bridge on this altered line, than on the line proposed by the Lackawanna. 1394

Q. What facts would lead you to that conclusion?

A. The reason is that I can obtain shorter spans on the proposed altered line, have fewer tracks to cross; the intermediate portion between the Lake Shore and Erie rights-of-way, of course, can be trestled, or piers can be located at such places as would least interfere with any proposed track of that road. 1395

Q. Couldn't the piers on this proposed line be put so as to interfere less with the tracks and the property extensions in the neighborhood of where there are more tracks on the proposed altered line than on the proposed line?

A. If it proposed to put in additional tracks on the southerly side of the Lake Shore, any pier between the

1396 Lake Shore and Erie tracks, on the proposed route or the Lackawanna road, would interfere more than on the proposed altered route.

Q. Now, in bridging, in getting over the tracks on the proposed line of the Lackawanna, how would this intermediate space be covered?

A. The cheapest way would be to make the spans as short as possible; put a span over these six tracks belonging to the Lake Shore, and a span over the intermediate space, and a span over the space occupied by the Erie—the northerly tracks of the Lake Shore and the Erie.

Q. Now, if you adopted that plan, would that not on this proposed line fix your piers so as to shut in the present system of tracks to what they are at present?

A. Certainly.

Q. By building it on the proposed line you obviate this shutting in of the tracks near where the tracks, or one part of them, converge the Erie and Lake Shore; by building on the proposed altered line you leave all the space between the proposed altered line and the Erie crossing of the Lake Shore perfectly free and clear from piers, or anything else?

A. Well, you would leave all north of the proposed crossing by the Lackawanna.

Q. On the proposed altered line?

1399 A. On the proposed altered line, you would leave all north of that free; you could on the proposed route of the Lackawanna road, place a pier midway between the Erie tracks and the Lake Shore tracks; make a longer span; that would cost more; that would leave a small space between the Central pier and the Lake Shore track.

Q. But taking it altogether, to build an over-head crossing, you say that the location of the proposed altered line has the advantages that you mention, over the proposed line of the Lackawanna?

A. Yes, sir, I believe that it is a better location for 1400 bridging the tracks.

By Commissioner Clark: Q. Is that because it is less expensive?

A. It is done with trestle-work; I cannot say which would cost the most; I do not think there would be much difference in the cost.

Q. Of the two routes, do you mean?

A. I prefer the proposed altered to the proposed route, on account of less interference with the existing 1401 tracks and extensions.

Q. What do you mean by extensions right at that point?

A. It refers to extensions of additional tracks there, parallel tracks to the present tracks.

Q. Suppose they extended further over the proposed altered route?

A. If they wished to extend them further, a pier on that line would interfere with the extension. 1402

Q. Then it would be the same, wouldn't it?

A. Yes, sir; I referred to extensions at sidings, connections with that system of tracks there; there is nothing to indicate that they intend going further in a southerly direction.

By counsel, resuming: Q. The extensions of side tracks, that you mention, would be extensions all completed northerly of the proposed altered line; you said that building on the proposed line, it would interfere less 1403 with the system of tracks as they are now, and with possible extensions. Now, did you mean by that extensions of side tracks, which would be entirely north of the proposed altered route?

A. I did; I referred to tracks switching out from some point northerly of this proposed altered route.

By Commissioner Clark: Q. The question I put was,

1404 supposing the extensions came south of the proposed altered route, would it make any difference?

A. It would simply increase the length of the span of that bridge; in forming my estimate of the two crossings on the two routes, the one proposed by the Lackawanna, and the altered route proposed by the other company, I assumed a shorter span, because there were fewer tracks across, as shown on the proposed altered route; but if you provide for additional extensions beyond the proposed altered route, then it increases the length of the span of the first crossing, and it might make the bridge on the proposed altered route cost a little more than on the route proposed by the Lackawanna Company; as the tracks now appear, I believe a bridge on the proposed altered route will not cost any more than upon the route originally proposed by the Lackawanna Company.

1406 By counsel, resuming: Q. As between the proposed route of the Lackawanna, with reference to its course and with reference to its elevation, and take the proposed route with reference to its course, that is, its direction, and its elevation, then what would you say between the two, taking the one as a grade, and the other as an over-head crossing; what would you say as to the two, as a practical engineer, in reference to the business shown to be done at this point?

1407 A. I think a grade-crossing should be avoided if it is possible to do so at any considerable expense; otherwise it interferes with all the arrangements of tracks now existing, the vested rights of these companies, the position of their property, and will involve a great deal of expense, increased expense to those companies in operating the road, which I think should be avoided if it is possible to avoid it.

Q. And that is avoided, is it not, by building that an over-head crossing?

A. Precisely, that will avoid, as far as I can see, all 1408 interference with this system of tracks, and with the operations carried on there.

Q. And would you say, as an engineer, with just this situation before you, that that, from an engineers' point of view, is a reasonable route with this over-head crossing, the proposed altered route, that that is a reasonable thing, to take the place of a grade crossing, in reference to that situation there?

A. At that particular point, so far as it relates to this 1409 proposed bridge crossing the tracks, I think it is perfectly reasonable, perfectly good; some of the details of the route beyond the grade, I think the parties could improve upon by proper examination.

Q. Taking it just as it is, with this route and this elevation, from its point of divergence from their line, as indicated upon this map, and then take this other route, being at grade, and what do you say as to the preferences of the proposed altered route, to that proposed by 1410 the Lackawanna, as an engineer?

A. I should put them over-head; I should adopt that line in preference to having this crossing.

Q. You would adopt the proposed altered route with its over-head crossing, in preference to this route with its grade crossing?

A. I should try to improve that route, if I was the engineer.

Q. But as between the two?

1411

A. As between the two, if there was no other alternative, I believe it would be better to adopt the over-head crossing.

By Com. Clark: Q. In this answer which you have given, do you take into consideration the interests of the owners of land adjoining, for the interests of the public in the streets, as to the effect which an over-head cross-

1412 ing would have, or is your answer from an engineering point of view?

A. An engineering point of view, with reference to the business that is being done on these two roads, and with another road to cross there, that it is better to elevate it, in consideration of all the difficulties that would be caused by making a grade crossing, if they cannot get a better line, which I know they can, and I know the parties could agree on a better line afterwards, but if
1413 you can't get a better line, take it as it is, according to the proposed alteration.

By counsel, resuming: Q. With reference to the streets, and the right of the public in those streets, which is more preferable as you remember the situation there?

A. It is preferable to have an elevated road across streets, have over-head crossings, if those streets are going to be opened and built upon.

Q. And over those streets that are opened and used?

1414 A. It is better to have over-head crossings, avoid grade crossings at streets.

Q. The interests of the public are best subserved by crossing at an elevation than by crossing at grade?

A. Much better; I believe more serious accidents occur at grade crossings, street crossings, and public road crossings, than in any other way in the operation of railroads.

1415 *Cross-examination, by Mr. Locke:*

Q. Do you prefer a tangent to a curve in the construction of a railroad?

A. No, sir.

Q. Do you prefer a reverse curve to a simple curve?

A. No, sir.

Q. Is a tangent considerably more desirable than a curve?

A. It depends upon the degree of curvature.

Q. It is considerably more desirable than any reverse 1416
curve?

A. Yes, sir, it is more desirable if the reverse curve has a high degree of curvature.

Q. Which should you say, assuming that both were over-crossings, and taking into consideration the whole line from Buffalo River to Louisiana street, one a tangent and the other a curve, which would you say was the preferable line for the interests of both parties and the public, provided both involved an over-crossing? 1417

A. A perfectly straight line is preferable.

Q. Taking all the circumstances, one a tangent line and the other embodying curves and reverse curves, which would you say was the most desirable, both overhead crossings?

A. I would prefer the straight line.

Q. You would prefer the adopted line?

A. Yes, sir.

Q. Assuming that both were to be grade-crossings, 1418
which would you prefer?

A. I would prefer the crossing at this place (witness indicates on the map); the allignment of the line proposed by the Lackawanna Company is the better line.

Q. Weighing the difficulties on the one side against the difficulties on the other, which do you regard is the better route, both to be grade-crossings?

A. Suppose they are both grade-crossings there is 1419
no difficulty in making just as good a line for the altered route as the proposed route, as the curves are put into there for the purpose of diverging it into this line; those are things that can be obviated.

Q. I am talking about the lines as they are, with the curves and everything, and taking the proposed route and the proposed altered route, and is not the proposed route the better route if both are to be grade-crossings?

1420 A. It is a better line for a railroad, but it is not the better route for all the parties in interest, because it involves a crossing at a place that I think is more objectionable to the interest of the other railroad crossings.

Q. You have heard Mr. Hawks testify?

A. Yes, sir.

Q. Don't you think it is desirable for all parties concerned that it shall be as far north from the bridge as possible?

1421 A. I don't think that is very material.

Q. Don't you think it should be as near the Erie crossing as possible?

A. Not necessarily.

Q. Don't you think that it is better where it is, near the Erie crossing, than it would be a thousand feet away from the Erie crossing?

A. If you go as far as a thousand feet it would interfere less with the yards than it does where it is now,
1422 but fifty feet or one hundred feet further southward would make no material difference in switching, because the switching would have to be suspended while the Lackawanna was crossing.

Q. All that Lake Shore switching has to cross the Erie now?

A. Yes, sir.

Q. Is it now desirable, if it is going to cross the crossing at all, that they should be as near together as possible, so that all the crossings will be under the control of one person?
1423

A. So far as one target—if one target man could answer for both roads, so far it would be an advantage, but the disadvantage that has appeared to bring them closer together, is that you cross more tracks, more frogs.

Q. That is the only trouble?

A. That is the only one that I see; there is a little 1424
difference in the bridges, as I stated before.

Q. You say you would prefer the over-head crossing
to the grade, provided the over-head crossing could be
made for a reasonable expense; have you made any
estimate as to the cost of that over-head crossing?

A. I have made some approximate figures.

Q. What did you figure up; you say you have made
an estimate?

A. I have made some approximate estimate. 1425

Q. Have you figured up the cubic yards of earth that
would be taken to make that filling from this crossing
clear on the Buffalo River?

Mr. Milburn: Before the witness leaves here we will
have him testify to dollars and cents and measurements.

Q. Have you made any figures at all?

A. I made some approximate figures.

Q. Have you guessed at it?

A. Not entirely. 1426

Q. Have you had the two profiles together?

A. Yes, sir.

Q. Do you know how many cubic yards of filling it
will require to fill on the one route over and above the
yards required to fill on the other route?

A. I cannot state the figures.

Q. Now you spoke about these frogs, and their mak-
ing imperceptible nicks upon the car-wheel?

A. They may be imperceptible to the naked eye. 1427

Q. The result would be the brakes would hold in
consequence of that; don't railroad men intend that
brakes should hold?

A. Not to slide the wheels if they can avoid it.

Q. Isn't it desirable in setting a brake to have it
hold?

A. In touching the brake the object is to check
trains.

1428 Q. And hold the wheel?

A. Not exactly; it is not to hold the wheel from turning around; if you do that you produce something that it is the intention of railroad men to avoid.

Q. And the brakeman should put on his brake not too hard, but just hard enough?

A. Certainly.

Q. A powerful brakeman would be a detriment to a railroad train?

1429 A. I don't think he is exactly.

Q. When did you come to the city?

A. I came, I think, on Tuesday morning.

Q. At whose suggestion did you come?

A. I was in consultation with Mr. Chanute in New York; I was in New York in reference to a viaduct that he proposes to build.

Q. Where?

A. The viaduct is on some Bradford extension, on a
1430 branch road of the Erie road; I don't know the name of the road; and while there Mr. Chanute asked me to come here and look over this matter and give my testimony if called upon.

Q. And so you came?

A. Yes, sir.

Q. Where is this Bradford road?

A. I don't know anything about that road. I had simply referred to me the plans of the viaduct.

1431 Q. You don't know where that is?

A. No, sir.

Q. Did you take a contract of the viaduct?

A. I was called in consultation as to the plans.

Q. Where is your place of business?

A. Philadelphia.

Q. What is the name of the concern?

A. I am not in business now, I am consulting engineer.

A. You do not build iron bridges or anything of that 1432 sort, just simply give advice in regard to matters?

A. As I stated in my testimony, I am president of the Keystone Bridge Company; I haven't been in business for two years.

Q. You say you have made an approximate estimate of the cost here; I am requested to ask you what your approximate estimate on the expense of the construction of the altered route is over the cost of construction of the proposed route? 1433

Mr. Milburn: I object to that.

Q. In what connection did you use the words "reasonable expense" before. Didn't you say you would prefer this altered route provided it could be built at a reasonable expense?

A. I think I said any reasonable expense.

Q. What would you consider a reasonable expense for taking that route from the other side of Buffalo River clear around to Louisiana street; what would you 1434 change your ideas in regard to the subject and would make you take our proposed route instead of the proposed altered route. How large an expenditure would you consider it desirable to avoid?

A. I would look at it in this way, if—

Q. Suppose you would save one hundred thousand dollars in cost of construction by taking the proposed altered route and make an over-crossing, would you do it in preference to going the other way. I am talking 1435 about this road. Suppose you were the engineer of the Lackawanna road and had the power to go where you wanted to?

A. That is entirely a different matter.

Q. Suppose you were the engineer of both roads?

A. If I were engineer of both of these roads and had to build that road, I would take into consideration the interest on the capital of building the other road, and I

1436 think that would pay the difference of making an over-head crossing there, the difference of inconveniences and expenses and everything incurred would pay the interest on more than half a million of dollars.

Q. If the one did not cost more than half a million more than the other, you would go over-head?

A. I would not consider that unreasonable.

Q. Do you know what the laws of the State of New York are in regard to railroads affording facilities to new
1437 companies to intersect them, and to make connections with them and all that sort of thing?

A. No, sir, I do not.

Q. If it were a part of the franchise of the Lake Shore road that they should afford all facilities for all other roads to intersect with it and connect with it, would that make any difference in your ideas at all?

A. My answer did not involve that question at all. We were looking at this as an engineering problem, ir-
1438 respective of any crossings or connections. I was answering it as if I was engineer of the three roads, and I consider the inconvenience of shifting cars, transferring of freight, danger to life and all those matters; I consider they would cost a greater expense per annum than thirty thousand dollars.

Q. Do you put first the danger to life or the wear and tear of wheels?

A. Of course I would consider the risk of life the
1439 first thing to consider.

Q. Did you ever build a railroad yourself?

A. I have built railroads.

Q. How long?

A. Not a very long road. I was engineer of the Pennsylvania road.

Q. Were you the engineer of that road?

A. On the completion of it.

Q. Did you lay it out?

A. No, sir.

1440

Q. Did you ever lay out a road anywhere?

A. Yes, sir.

Q. Where?

A. I have laid out many roads around Philadelphia for the Pennsylvania road; the city extensions and short lines on the Pennsylvania road.

Q. Were you chief engineer on the Pennsylvania road?

A. I went into the Pennsylvania road when it went 1441 into operation.

Q. It is in operation now?

A. Yes, sir.

Q. Were you chief engineer?

A. No, sir.

Q. What relation did you hold in the Pennsylvania road?

A. I was making a survey.

Q. How much of it?

1442

A. I was engineer of about one hundred and fifty miles.

Q. Did you ever build an over-head crossing?

A. No.

Q. Did you ever make a grade-crossing?

A. No.

Q. Did you ever operate a grade-crossing?

A. I never operated a railroad.

Q. Then your knowledge in regard to the troubles 1443 of a grade-crossing are simply theoretical?

A. It is not difficult for an engineer to see those matters.

Q. Your knowledge in regard to the troubles of a grade-crossing are simply theoretical, I say?

A. From observation and from a grade-crossing at Philadelphia that has been under my observation almost every day.

1444 Q. Where is that ?

A. It is one of those I mentioned at the end of the tunnel south of Walnut street.

Q. What road comes in at the south end of Walnut street ?

A. It is near the junction road ; it connects the Philadelphia, Wilmington and Baltimore Road.

Q. Is that the road we take when we come from Washington to Buffalo ?

1445 A. When you come from Baltimore to Washington you cross that crossing.

Q. Have you ever been to New Brunswick ?

A. Did you ever see that grade-crossing there with the Jersey Central ?

A. At Elizabeth, you mean ?

Q. Yes, sir.

A. Yes, sir.

Q. Have you been there ?

1446 A. Frequently.

Q. Do you know how many trains pass that grade-crossing a day ?

A. No, sir.

Q. Have you any idea ?

A. I have not.

Q. Aren't there nearly two hundred ?

1447 A. I don't know ; I know the traffic of the Pennsylvania and New York Division and the Jersey Central pass that point.

Q. It is a heavy traffic, isn't it ?

A. Yes, sir.

Q. And very successfully operated ?

A. Yes, sir.

Re-direct examination, by Mr. Milburn :

Q. When you say, for instance, that the alignment of their proposed road is better than the alignment of the

other, you are speaking simply with reference to their 1448 courses, and not as to the effects of grade crossings in this yard?

A. That is what I stated, irrespective of those.

Q. Every straight line without even a three-degree curve is of course *per se* a preferable line to one with a curve?

A. That is my meaning precisely.

Q. Looking at the whole matter, all the questions covered by the two lines with reference to this, the ques- 1449 tion of a three-degree curve there dwindles into slight importance, doesn't it?

A. I think it does.

Q. A three-degree curve is not much of a curve on a railroad?

A. No, sir; it has nineteen hundred and ten feet radius; it is a long radius.

Q. In fact a good deal depends when you are talking about that alignment as to whose interest you are look- 1450 ing at?

A. If there are no difficulties, no other considerations, an engineer would make a straight line.

Q. Taking the Lackawanna road, its interest would be materially subserved by an over-head crossing to a crossing that would delay its trains over ten tracks with eighty frogs; that is a serious objection purely with reference to the Lackawanna road and the business it 1451 would do?

A. You would avoid all that by making an over-head crossing.

Q. They avoid these eighty openings in frogs and the delays to their business consequent upon crossing the ten tracks there?

A. Certainly, that would be very considerable unless they have arrangements that the switching shall stop when their trains come.

1452 Q. If the business that is done there to-day, as is disclosed in the evidence, is to delay their trains, it will be a rather serious question of delay to them?

A. Very serious, unless they can claim the right of way.

Q. In reference to these points, the over-head crossing is just as much a decided advantage to the Lackawanna as it is to the Erie and the Lake Shore Road?

A. Precisely with that view that I answered as I did,
1453 that if I were engineer of the three tracks, I would take into consideration all those facts and make an over-head crossing.

Com. Clark: In speaking of bridges in your testimony, have you alluded to iron bridges?

A. I had iron bridges in my mind?

Q. Will you state what the longest span is which you adopt building iron bridges?

A. It is cheaper to make short spans?

1454 Q. How long would it be practicable to build a span at either of these points—a single span?

A. If the pier is twenty feet high it would be cheaper to go not over one hundred feet to the span.

Q. On that proposed line could there be a bridge of one single span?

A. That would be a very expensive bridge.

Q. As to the price of a bridge, what is the comparative price of a short span to that of a long span?
1455

A. You would have to go four hundred feet—

Q. What is the comparative price?

A. A bridge of one hundred feet span, of a track bridge, would cost about ten thousand dollars.

Q. Can you give me a comparison of prices of long spans and short spans?

A. It is almost as the square of the span.

Q. If you double the span the cost is increased four times?

A. Yes, sir.

1456

Examination by Mr. McAlpine :

Q. At every crossing of one track with another track at right angles, how many blows do each wheel strike in passing ?

A. That is, the crossing of one single track with another single track ?

Q. Yes, sir.

A. Each wheel gives two blows.

1457

Q. If both of the roads have double tracks, how many blows does each wheel strike ?

A. It would be eight blows, if both roads are double tracks. It receives four blows if it is a single track crossing a double track.

Re-cross examination, by Mr. Locke :

Q. You said, in your judgment, a wheel receives a sharper blow where the crossing was at a right angle 1458 than where it was at more of an acute angle ?

A. I think it does.

Q. Which is the preferable, a crossing at right angles or a crossing at acute angles ?

A. I think that would depend very much upon circumstances ; I think that—

Q. Take it at such a place as this, isn't the more direct crossing the better on account of the time occupied ?

A. I don't think there is difference enough in those 1459 two crossings to make any appreciable difference.

Re-direct examination, by Mr. Milburn :

Q. Take that reverse curve which is mentioned here, and at the rate of speed that trains would naturally have to go, coming into the city here, do you, under those circumstances, consider it much disadvantage ?

A. Not at low speed, no serious disadvantage.

1460 *Re-cross examination*, by Mr. Locke :

Q. Do you think that the fact that all trains now have to stop on either side of this crossing, is an element to be considered at all in locating the crossing?

A. I don't think that has sufficient weight to affect the manner of changing from the located to the altered line.

Q. You don't think that it is enough?

A. No, sir, I don't think that that amount of transference of location is.

1461 Q. That is, from the proposed crossing to the proposed altered crossing?

A. Yes; I don't think it would affect that.

Q. What?

A. I don't think it would affect the matter that all trains are obliged to stop at this point. I don't think that going that distance would make any serious difference.

1462 Q. If you were going to locate a crossing over a railroad owned by me, wouldn't you think that it would be judicious upon your part to locate your crossing, especially if it was a grade-crossing, at a point where my trains were already required to stop?

A. I would rather place it near that if the same stop would answer.

Q. It is very important that the same stop should answer?

1463 A. It avoids two stops.

Q. Don't it very much tend to depreciate the danger of accidents?

A. In the crossing you are speaking of, out in the country, where there is one simple line crossing the other, it might be better to have those two crossings near enough together so that one stop would answer, but I mean that the distance of change here is not sufficient to have any weight in this case.

Mr. Greene: Whether it was located within one

hundred feet or three hundred feet would not make any material difference in a level country?

A. No, sir, because the one stop would answer just as well.

Mr. Locke: This crossing is a great deal worse than it would be if it was five miles up the Lake Shore road, the crossing at this point, between two stations five miles up the Lake Shore, it is a great deal worse here than it would be up there?

A. It is worse here because it crosses so many tracks.

Q. Is that the only difference?

A. A crossing is a crossing, it don't make any difference where it crosses.

Q. If it was five miles up the Lake Shore, it would compel every train to stop?

A. It would not interfere with the shifting of cars.

Q. If it was five miles up the Lake Shore road, it would involve the stopping of every passenger train that approached that crossing at a high rate of speed?

1466

A. Yes, sir.

Q. And the starting of every passenger train?

A. Yes, sir, that is precisely the reasons that I gave.

Q. Wouldn't the cause resulting from those stoppages and the increased danger of accidents, because trains would approach that crossing at a high rate of speed, while in the city they are limited, wouldn't those two elements make the crossing five miles out in the country a worse crossing for the Lake Shore road than this proposed crossing?

1467

A. No, sir.

Q. Wouldn't those elements counterbalance the evils attendant upon the switching?

A. No, sir.

Q. You think that the Erie crossing is worse for the Lake Shore road than a crossing at grade would be five miles out on their main line?

1468 A. Yes, sir.

Q. And which necessitated the stopping of trains at a point where they were under a high rate of speed?

A. Yes, sir.

Q. You think that is a worse crossing for this road than a crossing would be five miles out?

A. Yes, sir, decidedly.

Re-direct examination, by Mr. Milburn :

1469 Q. The crossing is worse, and worse in this relation to a system of tracks such as that?

A. Yes, sir, that is why I consider it to be worse here than if it were out on the road. It would be a simple crossing, here it is a crossing of a great many tracks, and interferes with the transfer business between those two companies, and causes great delay.

Re-cross examination, by Mr. Locke :

1470 Q. Assuming that in the twenty-four hours there were intervals of five minutes when that crossing is not now in use, sufficiently in use to aggregate five hours out of the twenty-four, wouldn't you say that that eliminated very largely the question of delays, from this case?

A. That would depend entirely upon what time those intervals fell; if they were at times when it would not interfere with the shifting of trains, when they were not occupied shifting trains, if those intervals occur at the
1471 time the Lackawanna wished to cross.

Q. I suppose those things could be adjusted?

A. I am not able to say.

Q. Do you think it would be difficult?

A. I think it would.

Q. Assuming that those things could be adjusted in such a way hereafter, that the Lackawanna could not use that crossing, and would have to wait four hours, if need be, until it was free, would that interfere with your calculation?

A. That still leaves the damages to wheels, and all that sort of thing. 1472

Q. Would you call that fifty per cent.?

A. No, sir; I would not place an estimate upon that.

WILLIAM A. HAVEN, sworn for the petitioners, and examined by Mr. Milburn, testified as follows:

Q. Your profession is that of an engineer?

A. Yes, sir.

Q. A civil engineer?

1473

A. Yes, sir.

Q. And you occupy what position at present?

A. Engineer in charge of construction of the Buffalo division of the New York, Lake Erie and Western division.

Q. The Western division?

A. The Buffalo division.

Q. That extends from Buffalo to Hornellsville?

1474

A. Yes, sir.

Q. You have charge of all the construction and the improvements that the Erie Railway are now making between those two points?

A. Yes, sir.

Q. Including all the matters in the city of Buffalo?

A. Yes, sir.

Q. You have about how many men employed in construction in your division?

1475

A. About eight hundred, sir.

Q. At what time was this double track of the Erie, at the crossing of the Lake Shore, and these changes that have been spoken of here to-day in the Lake Shore track, when were those decided upon?

A. In August or September, 1880.

Q. I will ask you if since that time you have been very much occupied with construction in the city of Buffalo and on your division?

1476 A. Yes, sir.

Q. What yourself and your force have been engaged in the construction is, in the various loop lines on the road?

A. Yes, sir.

Q. And also construction in the city of Buffalo?

A. Yes, sir.

Q. Just explain to us what the cause of the delay that there has been there in carrying out the understand-
1477 ing that was then reached as to changes?

Q. First, it was necessary to construct the additional crossing-frogs, which took a month or six weeks, which was work that the blacksmith had to do at the time, or the blacksmithing force at Attica; so it was the middle of October before the frogs were done; at that time bad weather came on, heavy rains followed by freezing up; so that last fall nothing could be done, and it was delayed until this spring; early in the spring all our men were
1478 engaged in taking up the third rail on the division, so they could not take care of it, but as soon as they were able to do so, we sent the frogs which were made for the second track at this point to Buffalo, and put them in charge of the road supervisor; he misunderstood the order and put them into the odd crossing to replace the ones which were in rather bad shape at that time; so we had to wait until new ones could be made before we could put them into the crossing that they were designed
1479 for; the frogs finally arrived here the early part of June, and they were put in as soon as they could get here; in the meanwhile the Lake Shore people had to change their frogs a distance of eight or ten feet; they were put in Sunday before last, I think, and in the meantime we went ahead grading up that track; that was the cause of the delay.

Q. If it had not been for that mistake with the frogs, when would that track have been in there?

A. Early in May.

1480

Q. Early in May, did you say?

A. Yes, sir.

Q. This new frog was there then for that purpose?

A. Yes, sir.

Q. Were those arrangements entered into as to that double track, or carried out with any reference to the Lackawanna route?

A. No, sir; the Lackawanna route had not been heard of in this section of the country, it was simply put 1481 in to facilitate the business of our road to and from our Ohio street freight-house.

Q. This map was prepared under your direction, was it not?

A. Yes, sir.

Q. And the Lake Shore draughtsman went to work at it also, and got out their copies in your office?

A. Yes, sir.

Q. The change of routes suggested by both companies 1482 being the same?

A. Yes, sir; Mr. Clark met me at the crossing and suggested that it was very important in his——

Q. You met Mr. Clark at that crossing before any map was prepared?

A. Yes, sir; before any survey was made.

Q. You and he decided upon a change in the route?

A. Yes, sir, upon the west side of Sandusky street, 1483 instead of where it is now.

Q. And then the map was made after that time?

A. After the surveys were made, the maps were made.

Q. Do you remember how many days, before the last day it was served, it was before you got to work at the map—it was what day that you got to work at this map?

A. I think it was Sunday.

1484 Q. And the maps had to be completed and served by Thursday or Friday?

A. Yes, sir.

Q. Of the same week?

A. Yes, sir.

Q. During that time I will ask you if it required yourself and your assistants to be working pretty much all night?

A. I think we worked night and day for four nights
1485 and days.

Q. The reason of these questions is to bring out this, if in the early hours in the morning this profile threw them up higher than you intended to?

A. Five feet just exactly.

Q. That was through what?

A. From not having good sight at midnight.

Q. That was a pure error?

A. Yes, sir.

1486 Q. It was not what you designed to do?

A. No, sir, not at all; we intended to have it about eighteen or twenty feet, nineteen or twenty feet, and looking at our profile paper, which is finely ruled paper, and my eyes being not as good as they were twenty years ago, we made a mistake of five feet.

Q. Do you know the clear headway that the Lake Shore applies for its bridges on its line?

A. Not personally.

1487 Q. You only know what you have been advised by them?

A. I have been told by them.

Q. What were you advised?

A. I will tell you one reason I gave it twenty feet headway, and that was the manner of this crossing; on the profile of the Erie Railroad, on the Abbott turnpike, it goes over quite a steep hill here, crossing the Lake Shore quite high; I prepared a profile last fall, which I

showed to Mr. Clark, intending that it was going to im- 1488
prove that slightly.

At the grade of the Lake Shore road from the Erie crossing to their bridge, ascends quite rapidly, twenty-five feet to the mile, and it was designed in arranging our grade, to allow them to throw their track up one foot at this point, so as to raise their tracks from switch number three from their grades, taking out the sag of their track; to arrange the grade of the Lackawanna road, and Lake Shore road, I allowed for the raise of either 1489
track one foot, making it twenty feet instead of nineteen, and by mistake I got it twenty-five instead of twenty.

Q. This proposed line that you have laid out here, do you consider it a perfectly practicable and feasible line for these gentlemen?

A. Yes, sir.

Q. And preferable to their present line running at grade over this location where it is? 1490

A. Yes, sir, preferable to that line.

Q. Of course you are perfectly well aware of all that locality, and the business that is done there generally.

A. Yes, sir.

Q. It is none of your business to manage the business?

A. No, sir.

Q. Will you tell us your reasons for preferring this alternate line to this line, we will say at present, without reference to the grade or elevation? 1491

A. It crosses less tracks, it makes the crossings solid.

Q. And whether this is regarded as an over-head crossing, or both are regarded as grade-crossings, under both circumstances you prefer the proposed altered line?

A. Yes, sir.

Q. For that reason?

A. Yes, sir.

1492 Q. And also with reference to less interference with the business here ?

A. Yes, sir, on account of the Lake Shore, it allows them to have more tracks here, and to use the ground which was purchased for the purpose of additional facilities ; if the Lackawanna is located here (witness indicates on the map) with an abutment, it interferes considerably with the putting in of additional tracks, and to swing around the abutments and the piers ; whereas
1493 down here it simply crosses the right-of-way line.

Q. That curve, this reverse curve, how much of a practical difficulty is it at that point, considering the speed that the trains will have to go there ?

A. I should not consider it of any moment, locating a line at that point.

Q. This line "A," as shown by the profile, crosses the Buffalo Creek Railroad, does it not ?

A. Yes, sir.

1494 Q. You said this change, as indicated in the profile here, crosses the Buffalo Creek Railroad ?

A. Yes, sir.

Q. That Buffalo Creek Railroad extends from where ?

A. It extends from the New York Central Railroad.

Q. As it comes into the city ?

A. On the northeast, the New York Central Railroad at Smith street around the city to the lake.

1495 Q. That road is called the belt road, a railroad for the use of all other railroads entering the city ?

A. I think so ; I understand it so.

Q. That is the way it is operated ?

A. Yes, sir.

Q. It connects with what roads ?

A. The New York Central, the New York, Lake Erie and Western, the Buffalo, New York and Philadelphia, and the Lake Shore and Michigan Southern.

Q. The Buffalo and Southwestern ?

A. Yes, sir ; that is a part of the Erie. 1496

Q. It connects with all of those ?

A. Yes, sir.

Q. Does it do business with all of them ?

A. It carries the cars of each road.

Q. That road to-day, at present, is a single track railroad ?

A. Yes, sir.

Q. And what as to the amount of business that is done upon it by these various roads ? 1497

A. I don't know.

Q. It crosses all of these roads at grade ?

A. Yes, sir ; and connects with them ; has switches into them ; it is built for that purpose.

Q. The main line of the Lackawanna road strikes that Buffalo Creek road or would strike it just across the Southwestern crossing ?

A. Yes, sir ; between the Southwestern crossing and the lake. 1498

Q. Line " B " of the Lackawanna as indicated on any alteration that you have made on the map, is left at grade, is it not ?

A. Yes, sir.

Q. It is only line " A " as indicated on this map five that is carried over the Buffalo Creek road, at an elevation ?

A. Yes, sir.

Q. By the altered line ? 1499

A. Yes, sir.

Q. What elevation is that ?

A. Nineteen feet.

Q. Nineteen feet clear ?

A. Yes, sir.

Q. As they have it they have two grade-crossings on that Buffalo Creek road, with these lines " A " and " B " quite close to each other ?

1500 A. Yes, sir.

Q. How close?

A. Within a thousand feet.

Q. Are you aware of any reason with the knowledge that you have of the situation, etc., of the necessity of two lines there?

A. I don't see any.

Cross examination, by Mr. Locke :

1501 Q. From whom did you first hear in regard to this crossing?

A. From Mr. Milburn, or somebody at Sprague, Milburn & Sprague's informed me of their crossing there.

Q. What did you do then?

A. I telegraphed to Mr. Clark asking him if he wished to make any objection to it.

Q. Did Mr. Clark reply?

A. Yes, sir; Mr. Clark replied.

1502 Q. Did you telegraph Mr. Clark at the suggestion of Mr. Milburn?

A. No, sir.

Q. How did it interest you whether he wanted any change or not?

A. As the lines were, the objections would be identical with both roads, it was more important for the Lake Shore than it was for the Erie, and I thought we had better make maps.

1503 Q. What day was it that you telegraphed him?

A. I don't know the day of the week.

Q. We filed the maps on the 19th day of May?

A. That was on Thursday?

A. Yes, sir.

A. I heard of it on the next Tuesday or Wednesday morning.

Q. From Mr. Milburn?

A. I heard it from somebody there.

Q. Was that the first communication you had on 1504 the subject?

A. No, sir.

Q. You telegraphed Mr. Clark on your own responsibility?

A. Yes, sir.

Q. Did you take any further step until you saw Mr. Clark?

A. At that crossing?

Q. Yes, sir.

1505

A. No, sir.

Q. Did you go down there at all?

A. No, sir; I went to the crossing to look at it.

Q. After you telegraphed Mr. Clark?

A. No, sir; before.

Q. Did you keep copies of your telegrams?

A. No, sir.

Q. By what line did you send them?

A. By the Lake Shore line.

1506

Q. Did you keep copies of your replies?

A. No, sir.

Q. From what office did you send them?

A. The Lake Shore office.

Q. Whereabouts?

A. At the Central Depot.

Q. When did Mr. Clark come upon the ground?

A. On the following Saturday morning.

Q. Did you have any further interviews with Mr. 1507
Milburn before you saw Mr. Clark?

A. Several.

Q. Where?

A. Both in his office and my office.

Q. Did he explain to you the law of the case?

A. I don't think he did.

Q. He didn't know anything about the law of the case?

1508 A. I don't know about that.

Q. Didn't you ever get a hint from anybody that it was necessary to make a nominal change of location here in order to take the benefit of a certain provision of the railroad law?

A. I knew that before.

Q. You went down Saturday, which must have been the twenty-eighth day of May—the twenty-sixth was Thursday?

1509 A. It might have been the twenty-seventh or twenty-eighth.

Q. Did Mr. Clark meet you there?

A. Yes, sir.

Q. How long did you stay there?

A. About a hour.

Q. Did you leave the right of way at all?

A. Yes, sir.

Q. How far did you go east?

1510

A. Towards the Buffalo Creek road.

Q. About how far?

A. About half-way to their bridge.

Q. To the Buffalo Creek bridge?

A. No, sir; the Lake Shore bridge over the Buffalo Creek.

Q. That is south?

A. Yes, sir.

1511 Q. How far did you go towards the Buffalo Creek road on the line?

A. On the Lackawanna line?

Q. Yes, sir.

A. I didn't go there at all.

Q. Did you go off the Lake Shore right of way?

A. No, sir; except on the Erie.

Q. How far did you go on the Erie?

A. We walked about that country for about an hour; I don't know how far.

Q. You walked up and down that spot? 1512

A. No, sir; we walked on the roads and highways, out in this region of the country.

Q. Did you go over to Louisiana street?

A. Not as far as that.

Q. Or Hamburg street?

A. Possibly, I went to the goose pond.

Q. That is as far as you went?

A. Yes, sir.

Q. Did you go over to see the Lackawanna map? 1513

A. Yes, sir.

Q. Did Mr. Clark?

A. No, sir.

Q. Mr. Clark has not seen that to your knowledge?

A. Not that I know of.

Q. How did you find the proposed points of crossing out there?

A. There was a stake or pole there, and we ran the line out by stakes on the other side, in the first place, by 1514 running out a Lackawanna line and finding it.

Q. At whose suggestion was it to move the lines to this precise point to which you seek to move it?

A. Mr. Clark's.

Q. Did you have a talk with him about it?

A. Yes, sir.

Q. Did that coincide with your ideas?

A. Yes, sir.

Q. Had you been upon the spot before you went 1515 there with Mr. Clark?

A. No, sir.

Q. How long did it take you to agree upon that point?

A. Five minutes.

Q. Did you make any calculations?

A. No, sir.

Q. Did you make any figures whatever?

1516 A. At that time, what kind of figures?

Q. Any kind of figures.

A. We didn't make any calculations.

Q. So you, and Mr. Clark, down there, decided what you would do with this Lackawanna road in twenty minutes without any figures?

A. About an hour.

Q. Did you make the surveys yourself?

A. Personally, no, sir.

1517 Q. You don't know anything about their accuracy?

A. As accurately as any surveys made; I suppose they are.

Q. You sent your subordinates to do that, didn't you?

A. Yes, sir.

Q. Did you decide how far you would make alterations—to what extent east and west you would change the line?

A. Yes, sir.

1518 Q. Out there?

A. No, sir; we did that in the office, on the map.

Q. Did you have any talk there about the clearance of the bridge?

A. No, sir.

Q. Not a word said on that subject?

A. No, sir,

1519 Q. Then you went back to the office and took some of this profile paper, and then you miscounted the lines, and so got this elevation on five feet higher than you wanted it?

A. No, sir; I did it after the surveys were made.

Q. Does that same error extend all along through that change of elevation—is there a mistake of five feet through the three thousand feet?

A. No, sir.

Q. Where does it extend?

A. To the foot of the grade on the easterly side of 1520 the crossing.

Q. The easterly side of what crossing?

A. The proposed Lackawanna crossing. It runs out to nothing at this point (witness indicates on the map).

Q. How far does the error run in the other directions?

A. It runs to nothing at Louisiana street; the five feet does not go through; the five feet is at this particular point, the point of crossing where it is a level ground on 1521 the top of the bridge; it runs to nothing on Louisiana street and a point a thousand feet away on the other.

Q. So that it is about three thousand feet that the mistake exists?

A. Yes, sir.

Q. Will you tell me, looking at that large map—will you explain to the commissioners where you would put the piers on the proposed altered line of the over-head bridge? (Witness shown map “Exhibit No. 3.”) 1522

A. I would locate the piers on the proposed altered route at points marked *M*, *N*, *O*, *P*; *M* is on the westerly side of the right of way on the Lake Shore road, and north of the Erie road, and *O* is on the westerly side of the right of way of the Lake Shore road, south of the Erie road.

Q. How far is it from *M* to *N*?

A. One hundred feet.

Q. How far from *O* to *P*? 1523

A. One hundred and twenty-five feet.

Q. How far from *N* to *O*?

A. Two hundred and twenty-one feet; I would make an iron trestle from *N* to *O*?

Q. How far is *P* from the easterly track—from Hart track?

A. At right angles?

Q. Yes, sir.

1524 A. Twenty-five feet.

Q. Your pier would take up most of that, wouldn't it?

A. It would take off fifteen feet of it.

Q. What would be the size of these piers?

A. About thirty feet wide.

Q. How thick?

A. It depends upon the height somewhat; they usually make a pier four feet wide by thirty feet long
1525 for a double-track bridge; that is in round numbers.

Q. Four feet at the top or bottom?

A. Four feet at the top, and if increased, at the rate of one foot in every twelve in height.

Q. That would make the pier how thick at the bottom?

A. If the pier was simply the support of the bridge it would be six feet at the bottom; if there is dirt back of it, it wants to be thicker.

1526 Q. Wouldn't the location of the pier at *P* prevent the use by the Lake Shore of the lot on the east side of the transfer-house?

A. No, sir.

Q. If you made an embankment here you could not get into it without making a pretty sharp curve there?

A. You could start out from here—you could get clear of this place with another set of tracks.

1527 Q. They couldn't get in but one more set?

A. They could start out what we call a leader—a branch from that.

Q. That would be a handy method of using this property, wouldn't it?

A. Yes, sir.

Q. Isn't that all marked in yellow there, too?

A. That is a mistake.

Q. The Lake Shore don't own this property on the south?

A. No, sir ; the Erie owns that. 1528

Q. How far is it from *P* to the first Lake Shore track ?

A. About twenty-five feet at right angles.

Q. Suppose that you take the proposed Lackawanna route with an over-head crossing ; if you take the Lackawanna road, is there any more trouble in putting a pier within twenty-five feet of the track, than there is with that altered route ?

A. It would interfere with the use of the ground very much. 1529

Q. How is it on the other side—on the west side of the Lake Shore track ; cannot you come within twenty-five feet with a pier ?

A. You could within twenty-five feet on the west side.

Q. If you are going to build an over-head crossing, you would put a pier about there (witness indicates) at that point ? 1530

A. Yes, sir.

Q. We will mark that *X* ?

A. All right, sir.

Q. On the other side marked twenty-five feet away from the Hart track ?

A. About on the right of way line.

Q. And mark that *Y* ?

A. Yes, sir.

Q. How far would that be to the bridge ? 1531

A. One hundred and sixty feet.

Q. How near could you put a pier to the Erie road on the proposed line ?

A. It might be down here, you couldn't get it in here (witness indicates.)

Q. Why couldn't you get it in here ?

A. There are a great many tracks there.

1532 Q. How long has the Erie Road owned this ground here, to your knowledge?

A. Two years.

Q. This right of way?

A. Yes, sir.

Q. That is since you have been connected with it?

A. Yes, sir.

Q. That right of way was bought by the Buffalo and Erie Road?

1533 A. I suppose so.

Q. Forty years ago?

A. I don't know how long.

Q. That has been in possession of the road for forty years?

A. Ever since the road was built.

Q. Suppose a pier was put up here and another one in here, how long a bridge would it make over your Erie tracks?

1534 A. Fifty feet.

Q. And give you ample room for all the tracks you have got now?

A. Yes, sir.

Q. Which is the greater distance, from the easterly line of the Lake Shore right of way on the proposed line to the point *Y* where you say a pier could be built, built, or from *M* to *P*?

1535 A. Greater the distance from *M* to *P*.

Q. How much is it?

A. Three hundred and thirty-six feet.

Q. Then all those tracks can be clear on the proposed line within one hundred and ten feet less than on the present line?

A. The present tracks can, yes, sir.

Q. Do you know who owns the triangle in white on the north side of Sandusky street?

A. I don't know for certain, but I think it belongs to

the Union Iron Works or the Union Iron Company; I 1536
think it belongs to them.

Q. You speak of Sandusky street, you know nothing
about the rights of the public in that street?

A. No, sir.

Q. You mean to say that it has not been worked as a
street at that point?

A. No, sir.

Q. Where did you make that map that was attached
to the petition in this case? 1537

A. It was made in my office.

Q. Did you make the Lake Shore maps, too?

A. No, sir.

Q. Did any of your employees?

A. No, sir.

Q. Who did make them?

A. The Lake Shore men.

Q. Where did they make them?

A. They made some of them in my office and some
of them up in a room in the Continental Hotel. 1538

Q. Do you know who made them?

A. No, sir; I don't know the names of the gentlemen.

Q. They took your map and copied it?

A. Yes, sir.

Q. How does that profile cut Louisiana street?

A. At grade.

Q. At the grade of the street? 1539

A. Yes, at the grade of the street.

Q. Have you ever looked at the levels of Louisiana
street in the city engineer's office?

A. No, sir.

Q. You know that is an important thoroughfare?

A. Yes, sir.

Q. Do you know where your subordinate obtained
his figures in regard to Louisiana street?

A. The top of the pavement.

1540 Q. You understood that he took it from observation?

A. Yes, sir.

Q. Who was it?

A. Mr. Hammond.

Re-direct examination, by Mr. Milburn :

Q. You have been asked some questions in regard to a map; when Mr. Clark came down there you and he examined that locality with a view to see just how you
1541 were affected by the proposed line of the Lackawanna?

A. Yes, sir; the two companies.

Q. Both you and Mr. Clark were perfectly familiar with that location before that time?

A. I was, and I think he was.

Q. Was there any conversation there that day between you and Mr. Clark, or at any other time between you and Mr. Clark, or any one that was present, to make a change of route simply for the sake of these or
1542 any other proceedings?

A. The change of route of the Lackawanna?

Q. Yes, sir.

A. I don't understand what you mean.

Q. The question of Mr. Locke was as to a change being made simply for the sake of getting up a proceeding—in other words, a delay; now was there any conversation of that kind between you and Mr. Clark or
1543 anybody present?

A. No, sir.

Q. I will ask you if you and Mr. Clark, while you were present that day, were not considering during the time that you were there, what was a practicable line for the Lackawanna, and that would interfere with you least?

A. That was the object of our being there and all we talked about.

Q. Wasn't it then determined that the great objection to their proposed line was that it was an unnecessary

interference with the rights of the Lake Shore and Erie 1544
at that point; wasn't it talked between you and Mr.
Clark there, if the object was not to get a line that would
throw the point of crossing as far away as possible from
this group of tracks at their proposed crossing?

A. Yes, sir; and also to throw it off from the Lake
Shore grounds.

Q. Wasn't it the question taken up, the question of
throwing the line further south—the objections to that
considered? 1545

A. Yes, sir.

Q. What were the objections that presented them-
selves to clearing this point more than is done at present
by the Lackawanna people?

A. That would be impossible—to come into their line
on Ohio street without crossing a great many more tracks
down there than there were at this point belonging to
the two roads.

Q. In other words, if their line was taken from there 1546
in the first place you would strike the Union Iron
Works?

A. Yes, sir.

Q. And its trestles leading to it?

A. Yes, sir.

Q. You would strike out in that direction the freight
yard, whatever it is, of the Erie Company?

A. It is the east end of our Ottawa street tracks.

Q. Which form a yard there, don't they? 1547

A. Yes, sir.

Q. And then was that line determined upon as the
best line for all parties?

A. Yes, sir.

Q. Was this map which accompanies the petition
made from actual surveys?

A. Yes, sir.

1548 Q. And did you stake out your proposed alterations as the survey was made?

A. I did.

Q. And from the data of that survey the map was prepared in your office?

A. Yes, sir.

Q. Now if the Lackawanna crosses here on its proposed line, by an overhead crossing, that will just as in the other cause a large amount of embankment or trestle work, as much on that line as on the other one?

A. Yes, sir.

Q. Not the precise length but the same system of embankments and trestle works?

A. Yes, sir.

Q. And bridges?

A. Yes, sir.

Q. And bridges of about the same span?

1550 A. Yes, sir, and bridges about the same span, practically so, a few feet one way or the other.

By Com. McAlpine: Q. Is it not possible to lower the Lake Shore bridge over Buffalo Creek, and thereby enable the grade of the Lake Shore and the Erie roads to be lowered at the proposed crossings of the Lackawanna railroad, and if not, why?

A. Two years ago, in building the bridge of the Lake Shore road, they purposely raised their grade so as to offer less obstruction to the ice that comes down the Buffalo River, at the breaking up of the river, raised it to its present height.

Q. State whether in your opinion, the bridge couldn't be properly lowered?

A. No, sir.

By Mr. Locke: Q. Is there any difference in length between the proposed line and the altered line?

A. Practically, no.

Q. How much shorter is the proposed line than the 1552 altered line?

A. I will look over the figures.

Q. Have you figured it?

A. No, sir, I have figured it but it don't come right.

MICHAEL J. GRIFFEN, sworn for the petitioners, and examined by Mr. McMillan, testified as follows:

Q. Where do you reside?

A. Cleveland, Ohio.

1553

Q. You are one of Mr. Hawks' assistants?

A. Yes, sir.

Q. You are in the engineer's department of the Lake Shore and Michigan Southern Railway Company?

A. Yes, sir.

Q. How long have you been in the engineer's department on that road?

A. From the fall of 1877.

1554

Q. Do you know the point on the Lake Shore road near the transfer-house called the Erie railroad crossing?

A. Yes, sir.

Q. And also the Buffalo Creek crossing?

A. Yes, sir.

Q. Have you taken levels, and prepared a profile of the line of the Lake Shore road between those two points passing from Buffalo Creek bridge?

A. Yes, sir.

1555

Presents paper to witness.

Q. Does that show a correct profile of the line of the Lake Shore tracks?

A. Yes, sir.

Q. From the Buffalo Creek crossing, passing over Buffalo Creek bridge, down to the Erie crossing?

A. Yes, sir.

Q. Does that show the exact location of the bridge,

1556 particularly where the rail passes, the under side of the bridge, and also the rail?

A. Do you mean the bridge seat?

Q. Yes.

A. Yes, sir, I want to state that that is five feet and ten inches below the base of the rail on the bridge, it is conceded that the bridge seat is the lowest projecting part of the bridge.

Q. What is the distance from the Buffalo Creek Rail-
1557 road crossing to the bridge, the south end of the bridge?

A. Two thousand one hundred and twenty-six feet.

Q. What is the length of the bridge?

A. Two hundred and ninety feet.

Q. There are two spans?

A. Yes, sir.

Q. Now, from the northerly side of the bridge to the Erie crossing, what is that distance?

A. One thousand four hundred and twenty-three feet.
1558

Q. What is the grade between the Buffalo Creek crossing and the southerly side of the bridge?

A. There are two grades; the first grade is 1,003 feet long, running from the Buffalo Creek crossing at seven and thirteen-hundredths feet per mile; the next grade is 1123 feet long.

Q. That runs to the bridge?

A. That runs to the bridge; that is a grade of twenty-
1559 four and twenty-nine hundredths feet per mile.

Q. Then the grade north of the bridge extending to the Erie crossing, what is that?

A. There are two grades there, also.

Q. Give us the first one, from the bridge extending northerly, the distance of that.

A. That is 8,887 feet, a grade of twenty-eight feet per mile; from that point to the Erie crossing it is 536 feet, with a grade of seventeen and fifty-three hundredths feet per mile.

Q. These figures on the top indicate what—on the 1560 top of this profile?

A. They indicate the elevation of the rail at the points marked directly under them.

Q. The elevation of the rail above what, the base line?

A. Above the base, and that base is the old base on the railroad, when they made a railroad from Buffalo to Erie.

Q. The figures on the left—vertical figures—what do they indicate? 1561

A. They indicate the scale that it is drawn to—the vertical scale.

Q. What is that scale?

A. Each of those lines is six inches—the vertical lines are six inches.

Q. And the figures are feet?

A. Yes, sir.

Q. And the figures at the bottom of the map, what are they? 1562

A. Each of those lines represent fifty feet.

Q. Each line represents fifty feet?

A. Each line represents fifty feet, yes, sir, each vertical line.

Q. Fifty feet of horizontal distance, I suppose you mean.

A. Yes, sir.

Q. Do you know when this bridge over Buffalo Creek was put up? 1563

A. In the summer of 1878.

Q. Was the old bridge removed at that time?

A. Yes, sir.

Q. How much higher is this bridge than the bridge that was formerly there?

A. I think the rail is two feet higher than the old bridge, but I am not positive as to that; that is my impression that it is two feet higher.

1564 Q. By Com. McAlpine: How does the bridge seat compare?

A. I don't know, sir.

Q. By Mr. McMillan, resuming: What was the old bridge that was there—was it a wooden Howe truss bridge?

A. Yes, sir, a wooden Howe truss bridge.

Q. Did it rest on a column, the same as that in the center of the river?

1565 A. I don't know; I don't know much about it.

Q. Do you recall whether the base of the bridge was raised when this new bridge was built, or not?

A. No, sir.

Q. You don't recall that fact?

A. No, sir.

Q. Do you recall any provision being made in the construction of this bridge to leave greater space for the ice and flood-wood that came down that creek?

1566 A. That was what I understood the raise of the bridge was for—that the raise was for that purpose.

Mr. McMillan offered in evidence the profile referred to, and asked to have it marked "Petitioner's Exhibit No. 5." Received and marked "Petitioner's Exhibit No. 5."

Cross examination, by Mr. Locke:

Q. How many trusses has this bridge?

1567 A. I don't know anything about how many trusses.

Q. By Com. McAlpine: It is a double track bridge?

A. Yes, sir.

Q. It has a truss on each side only—that is the question—two trusses?

A. Well, it is two bridges.

Q. By Mr. Locke, resuming: Two trusses?

A. There is no middle truss; it is two bridges.

Q. When did you come from Cleveland?

A. I came up yesterday morning.

Q. Did Mr. Payne come with you? 1568

A. No, sir.

Q. Did you see Mr. Payne here?

A. Yes, sir.

Q. Mr. Charles Payne?

A. Yes, sir.

Q. Is he the general superintendent of the Lake Shore?

A. Yes, sir.

Q. Has he returned? 1569

A. I don't know anything about it.

WILLIAM A. HAVEN, recalled for the petitioners, and examined by Mr. Milburn, testified as follows:

Q. What is this paper I present to you?

A. A profile of the main freight track of the New York, Lake Erie and Western railroad from the Abbott road to Hamburg street, crossing the Lake Shore road. 1570

Q. That was made yourself?

A. Made under my supervision; I made a part of it; I guess I made it; there seems to be some of my figures there; it was a year ago.

Mr. Milburn offered in evidence the profile referred to; received and marked "Petitioners' Exhibit No. 6."

Q. What is the lower black line; what does it represent?

A. It represents the top of the tie of the Erie track. 1571

Q. Between those two points?

A. Between those two points.

Q. What do the pencil lines represent drawn above?

A. It represents where we propose to change the grade, and take out the sags on each side of the Lake Shore road; the lines that are drawn to the top of the black grade of the present grade, simply show where we take out the sag of the track as it is; the upper lines are lines that are one foot above them; to show an improve-

1572 ment of the grade, supposing the track was raised at that point one foot to conform to Mr. Clark's wishes; supposing Mr. Clark raised this track one foot, the red line shows the line of the road, the alignment of the New York, Lake Erie and Western, and the blue lines crossing it show the Lake Shore tracks crossing it.

Q. The red line represents what?

A. The red line represents the alignment of the track of the New York, Lake Erie and Western Railroad
1573 drawn—not exactly because the curves are not shown in it.

Q. Simply to show its general direction?

A. Hardly its general direction; it simply shows—get on the same scale with the profile, and directly opposite to it the points of the frogs and the crossing points, showing their angle with the present track; it does not show any of the curves that are in the present track.

By Mr. Greene: Q. It is a line supposed to represent
1574 the track of the Erie road without any reference to curves or grades?

A. Yes, sir.

Q. And the lines intersecting or crossing it indicate the railroad has crossing, frogs and switches?

A. Yes, sir; the points of frogs are all indicated by the writing above it.

Q. Now, when was this profile made?

1575 A. It was made in August, 1880.

By Mr. Milburn, resuming: Q. When were these pencil lines drawn above the black line of the profile?

Q. About the same time; it might have been probably in September, at the time Mr. Clark and Mr. Taylor and myself had our meeting there.

Q. You say the black line of this lower profile represents the present track of the Erie Railway Company?

A. The profile of the track; yes, sir.

Q. The profile is a profile of the present track of the

Erie Railway Company, and the pencil lines above those 1576 were made to represent the contemplated improvements of the grade?

A. Yes, sir; exactly.

Q. And the upper pencil line shows that at the point of crossing the Lake Shore road, one of the proposals was to change the grade of that road one foot?

A. Yes, sir.

Q. Please make a clear statement of the reason for lifting the grade of the Lake Shore, at that point of in- 1577 tersection, one foot for proposing to lift it?

A. To enable the Lake Shore to run a uniform grade from the end of their bridge, over the Buffalo Creek, to the south end of the yard.

Q. Being switch number three?

A. About switch number three.

Q. On map number three?

A. Yes, sir.

Q. To give that uniform grade from the bridge to 1578 that point, the track at the point of intersection of the Lake Shore tracks by the Erie railway would be raised one foot?

A. In that neighborhood; in the neighborhood of a foot, yes, sir, it might be more or less.

Q. Do you know what the height of a refrigerator car is?

A. Not from measurement.

Q. Haven't you a judgment about the matter; don't 1579 you know, generally?

A. About thirteen and one-half feet.

By Commissioner McAlpine: Q. What is the height of a palace freight car?

A. A palace stock car?

By Commissioner McAlpine: Q. A palace stock car?

A. About fourteen feet, sir.

Q. Is that the highest car of all?

- 1580 A. That is the highest, as I understand it.
 Q. Over those cars employees have to pass?
 A. Yes, sir.
 Q. Are these cars being extensively introduced upon the roads?
 A. They are about being introduced.
 Q. And there are some in use to-day?
 A. I don't know of my knowledge about that.
 Q. Have you not seen them on the tracks?
 1581 A. I have seen them in New York, I have seen them on our tracks here.
 Q. You have seen them in New York in what way being built or what?
 A. No, sir, in the Central yard.
 Q. Does the employee pass over the top of those cars just the same as he does of the top of the other trains—will he do so?
 A. Yes, sir.
 1582 Q. You know that refrigerator cars, thirteen and one-half feet high, are in use now?
 A. They are in use, yes, sir.
 Q. Do you know of their running on the Lake Shore?
 A. No, sir.
 Q. I think you say it was your intention in your profile to give a clear headway at the Lake Shore crossing of twenty feet?
 1583 A. Yes, sir.

Cross-examination, by Mr. Locke :

- Q. Have you heard the question mooted of changing your Erie international trestle over the Erie Railway at East Buffalo?
 A. Yes, sir.
 Q. Elevating it still higher?

A. I don't know what the arrangement is ; that is a 1584 matter between Mr. Chanute and Mr. Fisher.

Q. You don't know whether there is any talk of elevating it or not ?

A. No, sir.

Q. That is nineteen feet in the clear ; do you know of any of your bridges between Corning and Hornellsville—do you know anything about those bridges there ?

A. No, sir.

Q. Haven't you ever heard that there are bridges 1585 there not sixteen feet in the clear ?

A. I have not heard that.

Q. What do you have posts down there with an arm projecting over the tracks, and ropes dangling down from the arm?—do you know what is the object of any such thing as that, about four hundred feet on each side of the bridges ?

A. I don't know anything about that, sir.

Q. Did you ever see such a device as that on a rail- 1586 road ?

A. A great many of them.

Q. What were they ?

A. I think to notify a man who was on top of a car that there was a bridge coming.

Q. That he must get out of the way ?

A. Yes, sir, that he must get out.

Q. A low bridge.

A. A low bridge.

1587

Q. It would not be necessary to have a low bridge sign there unless you had a low bridge ?

A. Probably not.

Q. If you saw those posts up with ropes dangling down, you would have a suspicion that there was a bridge there under nineteen feet in clearance, wouldn't you.

A. Very naturally.

Q. You would think that probably there was a bridge

1588 there not over seventeen feet in the clear, would you not?

A. A bridge low enough to hit a man's head, standing up on top of a car.

Q. That would be about seventeen feet, if they were put there before the refrigerator cars were invented or palace stock cars, wouldn't they?

A. I don't know what the height of bridges was twenty or thirty years ago.

1589 Q. Do you know what the clearance of the Bergen tunnel is three feet from the center—the Erie tunnel at Jersey City?

A. I don't know.

EBENEZER CATLIN, sworn for the petitioners and examined by Mr. Greene, testified as follows:

Q. You reside in Buffalo?

1590 A. Yes, sir.

Q. What is your business?

A. Extra yardmaster of Lake Shore road.

Q. What place are you employed?

A. In the city yard of the Lake Shore.

Q. Is that the yard that has been mentioned here that runs down near Sandusky street?

A. Yes, sir.

Q. Near this crossing?

1591 A. Yes, sir; it reaches all the way from Louisiana street to the Buffalo street crossing, the first switch west of the Buffalo crossing of our road.

Q. How long have you been so engaged there?

A. A little over a year, in the yard.

Q. What are your duties?

A. Part of the time making up west-bound trains, and shifting all the cars that come into our yard.

Q. By shifting all the cars that come into your yard,

do you mean superintending the distribution of cars to 1592 various points on the arrival of freight?

A. Yes, sir.

Q. And also collecting together and putting into trains outward-bound cars?

A. Yes, sir.

Q. Where is this work of distributing and making up trains, and the switching necessary to do that work, done?

A. The trains that arrive from the east, most of the switching is done right over this Erie crossing and the 1593 proposed crossing of the Lackawanna road; there is about half or a little over of the west-bound cars that are shifted over these two crossings—about half of the west-bound cars, that is, that leave the city yard.

Q. They are switched over there?

A. Yes, sir.

Q. How many times on an average would each car pass over that crossing in the switching process—the western-bound cars? 1594

A. I should think on the average that all west-bound cars that are made up in the city yard would pass over that crossing once—all west-bound cars.

Q. They would pass over it once when they went out?

A. I am not talking of when they went out, I am talking of shifting of the train.

Q. And getting it ready to leave? 1595

A. Yes, sir.

Q. On an average they would all go over once?

A. Yes, sir.

Q. In other words, you think that at least half of the cars go over it and back in the process of making up trains?

A. Yes, sir.

Q. How in reference to the business with the Erie, the transfer business?

1596 A. The transfer business has to be all pulled over those two crossings and the through business with the Erie, that is the through cars—

Q. First, the transfer business—how many times would each car pass over the proposed crossing on an average?

A. They have to go over the proposed crossing any way four times, and it is according to the number of shifts there is of the string of cars. Sometimes we will
1597 take twenty-five cars to be delivered on the Hart track which is this southeast track.

Q. They necessarily would pass over the proposed crossing four times, and as many more as there has to be shifting of the train, in order to sort out cars?

A. Yes, sir.

Q. About how many additional times would you think it would average that the cars transferred would have to go over, resulting from the necessity of sorting
1598 them out from the train. How many times in addition to the four times, on an average?

A. Well, in transfer freight I should take about six or seven times, on an average.

Q. That is, all told, including the four times?

A. All told; it might be more than that; that is a low estimate.

Q. This work there during the last year was done under your personal observation and supervision, was it?
1599

A. Yes, sir; I was one of them.

Q. What do you say as to the occupying of the target, as we call it here; what portion of the time it was occupied during last year?

A. By our trains?

Q. By both companies, put it all together?

A. I should think it was occupied most of the time.

Q. By most of the time do you mean—

A. About eight-tenths of the time.

Q. State whether or not it was very frequently the 1600 case that when the Erie Company had the target your trains incoming and outgoing were delayed, and your work of shifting and switching necessarily suspended?

A. It was very often the case.

Q. Very often the case?

A. Yes, sir.

Q. For a period of what length?

A. I have seen that crossing blocked forty-five minutes by the Erie. I have timed it myself that time. 1601

Q. That is, to suspend operations entirely upon your track for that time?

A. Entirely; yes, sir.

Q. A stoppage there of anywhere of from five minutes to forty-five would it not necessarily result in a practical suspension of the operation of business in the yard?

A. It would at this west end of our yard; yes, sir.

Q. Would it also operate, say a delay of fifteen minutes, ten or fifteen minutes on outward-bound trains; 1602 state whether or not it would have an effect in detaining other trains at other points of the line?

A. It would somewhat, especially in foggy or stormy weather, to a considerable extent.

Q. Give us an idea, if you can, about to what extent you have foggy weather at this point, and during what portions of the year?

A. Well, we have more foggy weather in the fall than we do in the spring, I should say about twice as much 1603 and maybe more.

Q. About what proportion of the time and in what months do you have fog?

A. I don't know as I could really answer that question.

Q. You have kept no record of it?

A. I have kept no record of it.

Q. State whether or not you have fogs and storms

1604 there that render it difficult to operate your business, more difficult than in clear weather?

A. We do, sir, very often, especially at this point, more than any other point of the road between Buffalo and Erie.

Q. They make fogs there in that vicinity?

A. Yes, sir, I believe the lake is the cause of a good deal of it.

By Com. Clark: Q. Do the fogs you have at that
1605 point extend into the city?

A. I don't think all of them do, no, sir. It has often been the case where we have had fogs there and I have come to dinner at the corner of Michigan and North Division street and there would be no fog there at all.

Q. Has the business of the Erie over this crossing during the last week or ten days been up to the average, or below or above it?

A. Below it, sir.

1606 Q. Considerably below it, quite materially?

A. I should think it was; yes, sir.

Q. What do you say, from your practical knowledge of the operations carried on there, and the business, whether another double track crossing at the line proposed, to what extent it would interfere with the transaction of the business now necessarily carried on at that point by the Erie and Lake Shore companies?

A. Well, I should think if on the proposed crossing
1607 they done the same business the Erie are doing at present, it would be about half the time that we could not do our business properly, that we would be blocked up in the yard on account of that.

Q. You think it would be impossible to transact the business without very grievous delays and detentions?

A. Yes, sir, I don't think we could do it.

Q. You do not think it would be done?

A. No, sir, not in the position our yard is in.

Q. What do you say about having to cut trains at 1608 these various streets, and about how frequently in consequence of detention to the target?

A. Taking our switching up here that we have to do, and the business that is done on the Erie road, I should think very nearly one-third of the trains have got to cut at Elk and Fulton streets.

Cross examination, by Mr. Locke :

Q. How long is the yard from the Erie crossing to its 1609 extreme northerly terminus?

A. I couldn't say as to that, I never measured it.

Q. Twenty-five hundred feet?

A. Our yard really reaches to the depot, to the Central depot.

Q. It would be four thousand feet?

A. I should call it a mile, I think it is just about that.

Q. I suppose that switch engines pull around a good many cars in that yard, that do not have to cross the 1610 present Erie crossing?

A. They do some, certainly.

Q. A good many, don't they?

A. Yes, sir.

Q. Speaking about these fogs, do these fogs extend as far as Central Wharf?

A. I couldn't say as to that, it is very seldom I go there.

Q. As far as Michigan street?

1611

A. They do sometimes, certainly.

Q. About what proportion of the days in the fall are foggy down there?

A. I couldn't say as to that, I never kept any account whatever.

Q. Have you any idea at all?

A. No, sir.

Q. Cannot you give as much of an estimate as you did

1612 on the number of cars that go twice or three times over that crossing?

A. No, sir, it is not my business to keep track of fogs.

Q. Will you testify that in any one year there have been fogs down there on ten different days?

A. In any one year?

Q. Yes?

A. I never kept track of it, but I think there are
1613 more than ten days, I have seen it more than ten days in a year.

Q. Running right through the day?

A. Not all day, no, sir, more in the morning, I think, than any other time.

Q. Are there any times when that crossing is not occupied by either the Erie or the Lake Shore?

A. Yes, sir.

Q. Intervals of five or ten minutes sometimes?

1614

A. Yes, sir.

Q. Half an hour, I mean the present Erie crossing?

A. Well, I never timed it to see how long, but I should judge that once in a while it was as long as thirty minutes.

Q. Five minute intervals quite frequent?

A. Yes, five minutes, that is when we did not have cars right on the crossing, but if we were switching up
1615 here on the Diamond or Hart track, I would claim that we had no crossing which we are liable to keep cars, especially our crippled cars have to go down in the yard to be repaired.

Q. The Erie crossing would interfere more with the switching in the yard than the proposed Lackawanna crossing, wouldn't it, inasmuch as the Lackawanna crossing is further towards the bridge.

A. Very little difference.

Q. Very little?

A. Very little.

1616

Q. Any difference that you can see?

A. All the difference there would be, if there was an east-bound train that came down into our yard, and they had one or two cars to leave on the rear end, that is right ahead of the caboose, they might get up far enough to get switched to leave them on another track; that would be all the difference; it is very seldom it happens in that way with an east-bound train.

Q. Only occasionally?

1617

A. No.

Q. So that would the Lackawanna crossing be worse than the Erie crossing?

A. No, I don't think it would be any worse.

Re-direct examination, by Mr. Greene:

Q. The Lackawanna would be worse on the Hart track, Diamond crossing and new grain track, and the Erie platform track?

1618

A. Yes, sir, but we were talking about shifting the train here.

Q. The Lackawanna crossing would be worse west of those tracks than the Erie crossing?

A. Yes, sir, they would have to be moved, as I understand it.

By Com. Clark: Q. Does the Lake Shore do its shifting of cars—I don't mean with the Erie road—at any other point than this?

1619

A. Yes, sir; if they have cars to leave on the head end of the train, down at the lower end of the yard, at the round-house, the road-engine shifts them.

Q. How far from the point where the Erie road crosses?

A. I don't know exactly how far it is; No. 1 track next to the main track will hold fifty cars; the other tracks will hold about five cars less, all the way back to

1620 the seventh track; that is all we have; there is seven tracks connected at both ends.

Q. Would it be practicable to do all that kind of work in the yard if it were necessary to do it?

A. No, sir; it could not be done down there; our round-house is stationed down there, and our engines come out from the round-house, and they all have to cross to the coal-docks, and there are continually engines passing back and forth; and our cabooses are
1621 there; they leave them there as they come in, and take them from there to go out.

Q. Assuming that this Lackawanna road should go across that bridge as proposed, do you know of any scheme of rearranging the Lake Shore tracks by which the business could be conveniently done?

A. No, sir, I do not.

Q. Have you ever thought about the subject?

A. Yes, sir; I have spent a good deal of thought; I
1622 am one of the men in the yard.

By Com. McAlpine: Q. Could those tracks be shifted and rearranged so as to do all of the switching without crossing the Lackawanna track; in other words, cutting off this end and putting this track in at some point further north that would give you the opportunity to do all of your switching without crossing the Lackawanna proposed crossing?

A. I don't think they could, sir; there is not room
1623 enough down here, and our repair shop—our car-shop, and where all of our cars are repaired, is right in here.

Q. Near Elk street?

A. Just below Elk.

Q. By Com. McAlpine: Suppose all of these tracks should be taken up and extended this way so far as you could extend them to the northward, far enough to enable you to do the business as well as you are doing it, now, this movement northward being far enough to give

you switching distance from the end here to the Lacka- 1624
wanua proposed crossing?

A. No, sir; they couldn't; they are extended just as far north as they can be.

By Com. Clark: Q. It goes to the depot?

A. No, sir; they go to the round-house and the rolling mill; and the Erie road crosses us just beyond that point where all their passenger trains cross our compromised track where the freight is delivered to the Central yard, and the stock-yard; all the stock has to go 1625
that way, so that we cannot extend our tracks.

By Com. McAlpine: Q. How far is it from that crossing, the present crossing of the two roads, to the Erie crossing?

A. I cannot say how far it is; I never measured it.

Q. Can you approximate it?

A. I think it is about three thousand feet; our round-house stands just below these yards, right in a 1626
line with our yard.

Q. In a line of the yard?

A. Yes, sir.

Q. I understood you to say one side of it?

A. No, sir.

Mr. Greene resuming: Q. The northerly end of the yard so called would be at Perry street?

A. Where trains come in?

Q. Your yards commences at about Mackinaw street? 1627

A. Yes, sir.

Q. Between Mackinaw and Sandusky, and runs down here to about Perry, and there the tracks come in together?

A. I should call it Louisiana street; all of our town business is done here.

Q. One moment—about the yard, through the center of this yard, you have how many tracks?

A. We have ten tracks, counting the main tracks.

1628 Q. When you get down, before you get to Scott street, you are reduced to how many tracks?

A. Four tracks.

Q. Between Perry and Scott street is your system of switches, whereby you run up to the car-shops?

A. Right at Perry street; yes, sir.

Q. And at Perry street your yard is contracted, is it not?

A. Yes, sir; down to Scott street, and a little below
1629 Scott street.

Q. So that you think it would be impossible to so arrange the tracks northward of the Erie crossing so as to extend the yard and transact the necessary business?

A. Yes, sir; I do; there is no possible way; if there was it would have to be all on a curve.

Q. It would interfere with the present arrangement of these tracks, and the structures, car-shops and engine-
1630 house, round-house and engine-sheds?

A. Yes, sir.

Q. It would involve an entire change of the plan and operation for their business here in the city?

A. Yes, sir.

Re-cross examination, by Mr. Locke:

Q. The Lake Shore Company owns all the land within the yellow margins on this map, don't it?

1631 A. I could not swear as to that.

Q. I suppose you own six hundred and fifty feet and nine inches on Elk street, don't you?

A. I could not say as to that, I am sure, how much we own.

Q. This map shows it, don't it?

A. I could not say anything about it.

Q. Don't you understand that the Lake Shore land runs clear to Van Rensselaer street, between Elk and Fulton?

A. I know they occupy that. 1632

Q. They occupy the land clear to Van Rensselaer street, between Fulton and Elk streets?

A. The first street back of our yard.

Q. They own all between their main tracks and the Abbott road, don't they, or they occupy it and the Erie transfer-house?

A. They don't occupy it; I don't know whether they own it or not.

Q. It is marked here, "Lake Shore and Michigan 1633 Southern Railway," is it not, within the colored lines?

A. It appears so by the map.

Q. Couldn't the transfer of freight to the Erie road be made at any other point by laying tracks, assuming that the Lake Shore road owns all the land shown by this map to belong to it?

A. I don't know as I really understand your question.

Q. Couldn't you transfer in here? (Counsel indicating.) 1634

A. No, sir, you couldn't.

Q. You could not transfer at any other point except this precise point?

A. I don't think you could, unless you transferred way up here somewhere, and crossed Buffalo Creek with bridges and trusses some way.

By Mr. Greene? Q. Then you would have to cross the Lackawanna again? 1635

A. Yes, sir.

By Mr. Locke, resuming: Q. Could not tracks be laid between Fulton street and the present crossing sufficient in number to enable you to do this shifting upon that ground?

A. They would not be long enough to do any shifting.

Q. How long would they be?

A. I could not say as to that; this number "7," as

1636 we call it, would hold about twenty or twenty-five cars in all.

Q. You could put in twenty tracks there that would hold twenty or twenty-five cars apiece, couldn't you?

A. We might by crossing the Erie and the Lackawanna road.

Q. Could you not without crossing the Erie?

A. No, sir, we could not.

Q. Can you not multiply those tracks almost in-
1637 definitely?

A. There is not room enough for the switches here, I don't think, sir.

Q. Do you know when this land, marked in yellow on this map, was acquired?

A. No, sir.

Q. How long have you been with the road?

A. A little over thirteen years.

Q. During all that time has the block between Elk
1638 street and Fulton street and Van Rensselaer street been occupied by the Lake Shore road?

A. I don't know, sir.

Q. Have you any recollection when they commenced to occupy it?

A. No, sir.

Q. Are any trains made up at East Buffalo which go directly through without further additions or sub-
1639 tractions?

A. Yes, sir.

Q. By the Lake Shore road?

A. Yes, sir.

Q. What proportion of your freight delivered from the Central road is made up at East Buffalo into trains?

A. And delivered at the Central road?

Q. Delivered from the Central road at East Buffalo, and is there made up into trains before it gets into this yard?

A. Very near all of it, ready to go west, you mean? 1640

Q. Yes?

A. Yes, sir.

Q. So that nearly all your west-bound, through freight which you receive from the Central road is not required to be shifted in your yard?

A. Not in this yard.

Q. It is all done at East Buffalo?

A. All except cars to weigh, and some crippled cars, and all local, as we call them, between Erie and Buffalo. 1641

Q. The New York Central is your main connection, is it not?

A. We get more cars from that company than from any other road.

Q. By a very large percentage, don't you?

A. Yes, sir, I think we do.

Q. Three or four times as many as you do from the Erie?

A. I could not say just how many times. 1642

Q. Do any of your trains consist of cars entirely destined for the east via the New York Central?

A. Sometimes.

Q. That is, pulled right straight through?

A. Yes, sir; it comes down in this yard and stops, and the crossings are cut, and there is a man who inspects the bills, and he says whether they can all go to the Central road or not, and if not, he chalks them. 1643
There is an engine gets behind them, and if they come up on number one they get behind them and shove them around the Compromise.

Q. You call that freight-track around town the Compromise—the freight cars to East Buffalo is the Compromise?

A. Yes, sir.

Q. Is that a through-track road?

A. Yes, sir.

1644 Q. All your east-bound freight by the New York Central has to cross that ?

A. Yes, sir.

Q. All west-bound freight from the New York Central has to cross it, of course ?

A. Yes, sir ; well, there might be ten or fifteen cars in the course of the year that we would receive at Ham-
burgh.

Q. The main passenger lines of the Erie Railway
1645 cross those Compromise tracks at grade ?

A. Yes, sir.

Q. The Buffalo, New York and Philadelphia cross those tracks at grade ?

A. Yes, sir.

Q. At what angle ?

A. The Erie crosses it at right angles, and I don't know what the angle is of the other.

1646 JOHN S. HAMMOND, sworn for the petitioners and examined by Mr. Milburn, testified as follows :

Q. You are the freight agent of the Erie at Buffalo ?

A. Yes, sir.

Q. And for the entire city you have charge of the freight department ?

A. Yes, sir.

Q. You have been connected with that department
1647 for how many years ?

A. About ten years.

Q. Now, all business coming into the city of Buffalo on the Erie Railway, part of its through business goes by its Niagara Falls line, and the Erie International Railway to Black Rock ?

A. Yes, sir.

Q. Its city business and its lake business going over its main line and then over its freight line, crossing the

Lake Shore tracks at that point in question to its city 1648
freight-house on Ohio street, and to the lake ?

A. A portion of the city business does not go there,
it is divided between this Exchange warehouse and the
Ohio street house.

Q. It is divided up between the warehouse on Ex-
change street and this one on Ohio street ?

A. Yes, sir.

Q. There is a large part of your city freight business
done at this Ohio street freight-house ? 1649

A. There is quite a large portion of it ; we handle
all we can there ; it is divided between Exchange or de-
livery place and the Ohio street.

Q. All your coal and lake business comes over this
freight line that crosses the Lake Shore ?

A. All that is delivered there comes over that line.

Q. You are well acquainted with this locality—the
transfer locality—between the Lake Shore and the 1650
Erie ?

A. Yes, sir.

Q. At the Lake Shore crossing ?

A. Yes, sir.

Q. At that point the freight line of the Erie Railway
crosses the Lake Shore ?

A. Yes, sir.

Q. Referring to "Exhibit 4," this is the Erie city
freight-house on Ohio street ? 1651

A. Yes, sir ; whatever we handle for Buffalo town
and for lake delivery.

Q. East and west-bound ?

A. East and west-bound.

Q. Is done at this freight-house on Ohio street ?

A. Yes, sir.

Q. Now what effects do you experience in your
business at the present time from this Lake Shore cross-
ing ?

1652 A. Well, we experience delays in getting our trains backward and forward.

Q. Will you explain how those delays, or some of the ways in which those effect the doing of your business in and about your freight-house there?

A. Well, if we should start to send a train from Ohio street to East Buffalo to be disposed of, in a great many cases we are stopped at that crossing, and have to wait until the Lake Shore trains get out of the way; they
1653 hold us sometimes two or three minutes, or half an hour, as the case may be.

Q. The effect of that delay is not only to hold your train there, but also to hold your engine there with which your freight business is done?

A. Yes, sir.

Q. If in delays caused to one train by the Lake Shore people having the crossing on the other side of the crossing, other of your trains also get delayed, and this
1654 double delay on each side in itself causes an additional delay by having to switch, etc.

A. Yes, sir, we have frequently trains coming in both directions, and are detained by these Lake Shore trains passing backwards and forwards, and when we are ready to go ahead with one train the other would have to switch out and get out of the way, because, you might say, the trains accumulated at that crossing.

1655 Q. And you have to switch so as to get rid of that accumulation of trains at the crossing, and allow the various trains to pass on the ways in which they are going?

A. Yes, sir; that is it.

Q. Now, do these delays hinder you in getting to your freight-house the trains that have to come there to unload, and getting away from your freight-house the trains after they are loaded and ready to start?

A. Yes, sir; very much, sometimes; we have to de-

pend on our getting cars in to get them unloaded, and 1656
getting them in empty to load them up, and these de-
tentions all look to that, on the unloading and the load-
ing.

Q. In other words, the moment you have got your
cars loaded to carry on your business properly, you have
to get rid of them as soon as possible to get fresh cars
in?

A. Yes, sir.

Q. And every delay that you have at the Lake Shore, 1657
or the general thing is that the delays that you have at
the Lake Shore crossing block your business at the
freight-house?

A. Yes, sir.

Q. Does also the detention of motive power, your
engines, prevent you from getting out of the engine in
the movement of cars the work which it would otherwise
do?

A. Yes, sir; it does.

1658

Q. So that one effect at the crossing is that you
either have to experience very considerable delays, or
keep on increasing your motive power?

A. Yes, sir.

Q. Now, in seasons you are very much, not only
your road but the other roads are very seriously blocked
with cars, are they not, with freight business?

A. Sometimes.

Q. Is the delay at the crossing of the Lake Shore 1659
road one of the elements which in such times as that
seriously aggravate the movement of your trains and the
doing of your business?

A. Yes, sir; through the yard; those are all switch-
ing trains; they are not regular trains at all; they are
trains made up to go backwards and forwards from the
Ohio street warehouses to East Buffalo, say, or another
distributing point.

1660 Q. Then the delay at the Lake Shore crossing may not only interfere with your business at the freight-house, but does it not also interfere with the making up and getting ready of trains at East Buffalo?

A. Sometimes; yes, sir.

Q. Keeping business moving at East Buffalo is one of the important points in the transaction of the freight business by the Erie Railway Company, is it not?

A. Yes, sir; we calculate on those cars we load here
1661 to make up those trains, and if we do not get them out as we expect we will, of course it causes delays, etc.

Q. Are those delays which you have described, not occasional, but a constant and a substantial thing?

A. All the time, more or less.

Q. At East Buffalo the trains are made up to go eastward; they take the cars that you send from your freight-house and that come from the other warehouses, and there make up the train as it is to go on the road?

1662 A. Yes, sir.

Q. What would you say as to another road, the Lackawanna, crossing at that same point at grade, all the tracks of the Lake Shore and of the Erie Railway Company, as affecting the transaction of your business?

A. Well, I say it would double up our trouble in respect to the crossing there, and perhaps more than that, because while we got through with one road's
1663 trains another might come in and block us again, so that we would have to stand longer.

Q. Of course that would depend to some extent on the business that the Lackawanna did?

A. Yes, sir.

Q. I will ask you if the longer the delay the worse it becomes—if fifteen or twenty minutes or half an hour's detention—if the effect of it is worse, proportionately worse on your business, than the five-minute delays that occur?

A. Yes, sir.

1664

Q. From your knowledge of all that is done, what would you say as to being able to do your business with having your trains held at that Lake Shore crossing, say first by the Lake Shore and then by the Lackawanna, before you could get across?

A. I should say it would make very bad work of it; it would be a very serious drawback; it is bad enough now.

Q. Do you think that it would be a serious question 1665 with all these tracks across that grade by this new road, whether you could really carry on your business at all as it is now carried on?

A. Of course I could not now tell the extent that that would block us, but I should consider it a very serious thing.

Q. It is such troubles as this at this crossing that limit the whole freight capacity of your road, is it?

A. Yes, sir.

1666

Q. These obstructions at your terminus?

A. Yes, sir.

Q. And the more of these instructions that exist the less is your road able to do the business which it is otherwise capable of doing?

A. Yes, sir, that is it exactly.

Q. As it is now, with that one crossing, is that an element at times in preventing you from doing your full capacity of freight business in the city of Buffalo?

1667

A. Yes, sir; we are not able to get the trains backwards and forwards as we calculate to, to load the cars or unload them.

Q. And you cannot take the business that is waiting for you?

A. Sometimes we are laid out so that we cannot load as much as we might during the day.

1668 Q. And freight which is there to carry you cannot carry for that reason?

A. Yes, sir.

By Com. Clark: Q. Because you cannot load as much?

A. Because we cannot get the cars to load. For instance, if we want to get trains backwards and forwards we cannot move the cars to get a place for loading.

1669 Q. You cannot get them in and out of your freight-house sufficiently fast?

A. That is it.

Q. You have the power in the freight-house to load if you had the cars?

A. Yes, sir.

Q. That is, the great point of a crossing of this kind is that it is all the time a pressure on the number of cars that can be brought into your freight-house to load, and the number that can be taken out to unload?

1670 A. Yes, sir.

Q. How is the business of the Erie and these other roads, as far as you are aware, as to increasing within the last ten years?

A. I have not got the figures in my mind exactly, but it is more than doubled.

Q. Your business has more than doubled in the last ten years?

1671 A. Yes, sir.

By Com. McAlpine: Q. Do you mean the business at this particular place of crossing, or the whole business of the company?

A. The whole business of the company.

By Mr. Milburn, resuming: Q. How about the business on this very line which crosses the Lake Shore?

A. I should think that that business there last season doubled up over the previous season.

Q. Doubled up last year over the previous season?

A. Yes, sir; this business that we are figuring on 1672 now is entirely a handling business; it comes from the elevators and warehouses and is from Buffalo town.

Q. You say that the business last season over the season before doubled up?

A. I think it very nearly doubled up, if not quite.

Q. Has it been increasing right along, and is it increasing?

A. It was larger last year than ever before. It is increasing all the time. 1673

Q. You have given us last season and the season before; now please give us between 1879 and 1878?

A. Well, I could not give you a very correct idea of them, because I don't recollect just how it was, the seasons changed along, but I have a very good recollection of last season.

Q. You can recollect, too, that through these years there has been a steady growth and increase?

A. Yes, sir, our business changes, you know. Take 1674 it up to last year, to the middle of last year say, almost all our town business was handled there, and since that we have had to take it away to Exchange street to accommodate the other businesses that we were handling to Ohio street.

Q. That is, you grew out of your capacity there?

A. Yes, sir.

Q. And you had to build another freight-house? 1675

A. At Exchange street, yes, sir.

Q. And normally, in normal times are you kept still fully busy in your Ohio street freight-house?

A. Yes, sir; business is a little slack now with all the roads all around.

Q. This transfer business with the Lake Shore does not come into your freight-house?

A. Not at Ohio street, no, sir.

1676 Q. That transfer business is carried on at this point of crossing in this locality?

A. Yes, sir.

Q. Is that a business that has grown up with the change of the gauge of the Erie Railway?

A. You mean the Lake Shore?

Q. Lake Shore and Erie transfer business?

A. Well, we have always had a fair amount of business from the Lake Shore road, and it is running heavier
1677 now than it has for some years.

Q. Has the narrow gauging of your road had the effect of increasing that business?

A. Yes, sir.

By Com. McAlpine: Q. By the exchange of cars?

A. Yes, sir.

Q. Without changing the cars from one set of cars to another?

A. Yes, sir.

1678 By Mr. Milburn, resuming: Q. When was this line narrow-gauged?

A. Do you mean the whole line?

Q. No, this freight line?

A. It was in 1876.

Q. The narrow-gauging of the whole line has been going on during the last two or three years?

A. Yes, sir.

1679 Q. Previous to having the same gauge as the Lake Shore all your freight there had to be transferred from car to car?

A. Yes, sir.

Q. There is a very serious objection to that transfer among shippers, to a great many articles, is there not?

A. Yes, sir, in almost anything that is handled they object to it.

By Com. McAlpine: Q. An objection besides the expense?

A. Yes, sir ; on account of damage to packages, and 1680
in case of grain, loss of grain ; it is subject to loss by
transfer, and even on coal they don't like it because it
breaks up ; it is not so very serious about that, but then
they do not like it.

Mr. Milburn, resuming: Q. Having to transfer freight
is a fact that very much limits the business of roads
where they have to make the transfer, as compared with
roads that do not have to make any transfer, growing
out of these very objections of shippers ? 1681

A. Yes, sir.

Q. Now, since assimilating the gauges of these roads
the bulk of that business can be transferred on the cars
right from one road to the other ?

A. Yes, sir ; we make exchanges with all the roads
more or less here now.

Q. Has that fact of the ability to transfer direct from
the Erie to the Lake Shore increased the transfer busi- 1682
ness which is carried on at this point ?

A. Yes, sir ; you mean the business exchange be-
tween the two roads ?

Q. The business exchange between the two roads.

By Mr. Greene: Q. Transferring cars instead of
transferring freight from car to car ?

A. Yes, sir.

By Mr. Milburn, resuming: Q. It has increased the
freight that the two roads exchange with each other ? 1683

A. Yes, sir.

Q. How has your business during the last week or
ten days been running on your freight line ?

A. From Ohio street ?

Q. Yes.

A. It has been very light ; our shipments have
jumped off nearly one-half.

Q. How about the exchange business during the last
ten days, say between the two roads ?

1684 A. The Lake Shore Road?

Q. Yes.

A. It has been pretty good, it has been pretty strong.

Q. Comparatively I meant?

A. I should say it was just about a good average.

Q. But your business from the Ohio street freight-house over that point has been light?

A. Decreased, yes, sir.

Q. I think you say about half?

1685 A. Well, sir, about one-half, I should judge.

Q. I will ask you if your shipments of grain during the last ten days have not been just about half of what they were last year at this time?

A. Well, I don't recollect as to that.

Q. How has your grain business been over this line during the last ten days as compared with last year, say; I mean an approximation?

1686 A. Well, it has been light; I could not, of course, recollect just how it was run at this particular time, last year, but as compared with the whole season it is light.

Q. Far below the average?

A. Yes, sir.

Q. Is that due to some extent to the present war in rates?

A. I don't know; no, it is due more to the peculiarities to the trade; they are not prepared to move it just now, you see.

1687 Q. Temporary causes?

A. Yes, sir.

Q. This present lightness of your business, not the transfer business, but that through the Ohio street freight house, you say is due to temporary causes?

A. Yes, sir.

Q. Just state a little about what is causing it just now?

A. Well, for instance, it is light shipment from the

West, from Chicago, and perhaps an increase of ship-1688
ments by all rail on account of the low rates by all rail;
you take, for instance, the canal business, there are no
boats loading on account of the low rates, on account of
low canal rates, and, of course, railroad rates have to be
something near corresponding; different things will
operate to affect the shipment of grain sometimes; some-
times we will have all we can move, and at other times
it will run light; it depends on the markets, and condi-
tion of grain and different things of that kind. 1689

Q. Then in sending freight by the lakes from this
point do you have temporary depression, or lightness of
business, owing to the lack of vessels, etc.?

A. Yes, sir, we are in that situation now; we have a
large amount of coal here that is to be shipped by the
Delaware and Hudson Company; that is all handled at
Ohio street, and they have been waiting for some three
or four days to get vessels; in the meantime, they do
not unload any; as soon as they get vessels they will 1690
want these three or four or five hundred car-loads over
there just as soon as they can get it, and if they do not
get it promptly their men will be idle at an expense to
them.

Q. Where is that coal that is delayed now from de-
livery to them—where is it detained?

A. At East Buffalo, part of it, and part of it, what
little we can store, at Ohio street. 1691

Q. Where is the great bulk of it?

A. At East Buffalo.

Q. And the moment they have the means of shipping
it that coal will be brought in from East Buffalo over
this freight line and passed on to them?

A. Yes, sir.

Q. So that for a week or ten days your freight may
be accumulating at East Buffalo?

A. Yes, sir.

1692 Q. That is the present condition of it ?

A. Yes, sir.

Q. How about lumber ?

A. Well, we handle considerable lumber over there coming from the lake, but that is subject to the same rule as all other business—moved with it.

Q. So that it brings me to this point, that this lightness that may exist to-day is not a general falling off of business, but next week you may be at your full run
1693 again ?

A. Yes, sir, they may be doing nothing this week, and we may get two thousand car-loads of grain here next week, and we want to load it out just as fast as we can ; working to get out cars and get them there and load them and get them away.

Q. It is just in these emergencies, your business coming in that way, in fits and starts, as it were, owing to these various conditions that you have mentioned, that
1694 these obstructions at a place like this operate disastrously ?

A. There is where they affect us seriously.

Q. By Com. McAlpine: And on particular days and times the business required to be done at this place is necessarily greater than the average ?

A. Yes, sir.

Q. As well as sometimes very much less than the average—is that so ?
1695

A. Yes, sir.

Q. By Mr. Milburn, resuming: In other words, it is not a normal, steady business of so many cars a day in busy times ?

A. No, sir ; let me explain: When this business is coming in with a rush, why we sometimes do not have capacity to store it or take care of it, and the more we get out the more business we can get ; that is to say, the more

cars we can load the more business will come to us ; that 1696
is the case a good many times.

Q. And every detention, the detentions that become serious and prevent this, not only delay you in getting your trains out, but delay you in getting business ?

A. Yes, sir.

Q. And you have to let business go ?

A. Yes, sir.

Q. Do you find that as an existing condition to-day, that you have to let considerable business go from those 1697
delays ?

A. Yes, sir, at times.

Q. I mean currently ?

A. It is so during the season.

Q. Can you tell us or explain to us the coal business of the Delaware and Hudson Canal Company that is done over this crossing ?

A. All that is shipped by lake ?

Q. How does it come to be done over this crossing, 1698
how do they get their coal by on the roads, and how does it come there ?

A. Why, it comes by the Erie road.

Q. Then the coal trestles of the Delaware and Hudson Canal Company are at the end of this freight line of yours ?

A. No.

Q. This freight line that you have connects with the 1699
coal trestles ?

A. Yes, sir.

Q. Do they do a large coal business ?

A. Very large.

Q. That business is drawn by the Erie, all of it, so far as it goes by lake, over this Lake Shore crossing ?

A. Yes, sir.

Q. How large a business do they do—can you give us any estimate ?

1700 A. Well, I don't know as I could very close ; I don't recollect exactly ; it runs from fifty to a hundred thousand tons a year.

Q. That is, coal that you bring to their trestle there ?

A. For instance, we have to-day in our yard over three hundred car-loads consigned there.

Q. At East Buffalo ?

A. At East Buffalo, and over at Ohio street.

Q. By Com. McAlpine : How much coal does a car
1701 contain ?

A. It runs from twelve to twenty tons.

Q. Eight-wheel cars ?

A. Yes, sir.

Q. By Mr. Milburn, resuming : Is that an increasing business of theirs ?

A. It depends altogether upon circumstances ; some years the tonnage will run a good deal larger than
1702 others.

Q. But you cannot say as to a steady normal increase ?

A. It would naturally increase the same as all other business ; it depends somewhat upon the movement by rail.

By Com. Clark : Q. How many cars can you store at your Ohio street tracks ?

A. I should say between four and five hundred.

By Com. Clark : Q. How many can you load with
1703 grain with your present facilities in the twenty-four hours ?

A. Well, we have tried to solve that a good many times ; it depends altogether upon circumstances, how we can get the cars.

Q. Supposing you have the cars, how many can you load ?

A. We could load four hundred cars a day.

Cross examination, by Mr. Locke: 1704

Q. Do you have anything to do with the practical operation of trains?

A. No, sir.

Q. Who attends to that?

A. The superintendent's department.

Q. Where do you stay during the day?

A. Well, my office is at the corner of Louisiana and Exchange streets, but I am all over.

Q. Those are your head-quarters? 1705

A. Yes, sir.

Q. Do you have anything to do with the direction of trains?

A. No, sir.

Q. What means of knowledge have you as to delays ; anything more than general report?

A. What delays have you reference to?

Q. Delays at crossing?

A. Oh, these trains are local switching trains. 1706

Q. What knowledge have you in regard to them?

A. Well, those are under my jurisdiction.

Q. Do you manage them yourself?

A. Not personally, but they are managed under men whom I have charge of.

Q. And who report to you?

A. Yes, sir.

Q. Do you have any delays at the streets in this city —street crossings? 1707

A. Oh, sometimes ; we sometimes break a train where we are blocked at a crossing some little time.

Q. That entails delay, does it not?

A. Yes, sir.

Q. One of the delays incident to the operation of a railroad in a city?

A. Yes, sir.

1708 Q. Do you have those delays at the Buffalo, New York and Philadelphia crossing?

A. Yes, sir.

Q. Do you have delay at the transfer tracks crossing?

A. Where do you mean?

Q. I mean the transfer tracks between the Lake Shore and the New York Central, the Compromise tracks, as they are termed?

Mr. Milburn: We don't go there at all.

1709 Q. Don't you cross the Compromise tracks of the New York Central and Lake Shore?

A. Not in going to Ohio street.

Q. You have freight from your city freight-house on Louisiana street?

A. Yes, sir.

Q. That goes across there?

A. Yes, sir.

Q. Do you have delays there?

1710 A. What you are trying to get is the Lake Shore track going to East Buffalo, I suppose?

Q. Yes?

A. We have delays there sometimes.

Q. Quite serious delays?

A. Well, we have to wait for trains to pass.

Q. Do you have charge of the yards at the International Bridge?

1711 A. No, sir.

Q. You don't have anything to do with that business down there; don't you have charge of the freight that is received at the International Bridge and handled there?

A. Yes, sir; I have charge of it, but I don't pretend to have anything to do with the switching down there.

Q. You don't know anything about delays at that point?

A. No, sir.

Q. Do you have any delays at the Buffalo Creek 1712 crossing?

A. That and the Buffalo, New York and Philadelphia are about the same thing.

Q. Out there there are two crossings, are there not, at Babcock street, or near Babcock street, where the Buffalo, New York and Philadelphia crosses and the Buffalo Creek road?

A. Yes, sir.

Q. Two crossings of the Erie tracks, the Philadelphia 1713 crosses your track?

A. Yes, sir.

Q. And the Buffalo Creek road crosses your track?

A. Yes, sir.

Q. About how far apart are those crossings?

A. Fifty or seventy-five feet.

Q. How long have they existed there?

A. I don't know how long the Buffalo, New York and Philadelphia road has been built; the Buffalo Creek 1714 track, I think, was put in last year.

Q. The Buffalo and Philadelphia track was laid in 1868, that would be thirteen years for the Philadelphia?

A. Yes, sir.

Q. And a year for the Buffalo Creek Railroad?

A. Yes, sir.

Q. All the freight that is consigned to the docks on Buffalo River via the New York Central road uses that 1715 belt road and crosses your main track?

A. No, sir.

Q. How does it get around to the Buffalo River?

A. Well, the freight by the Central consigned to the Buffalo Creek Railroad goes there, but their through freight goes to the Ohio street depot.

Q. All the freight that goes to the Ohio street depot crosses the main tracks of the Erie, don't it?

A. Not the New York Central; no, sir.

1716 Q. It must cross the main track of the Erie road somewhere?

A. No, sir.

Q. That freight comes in here?

A. You mean the Alabama street crossing?

Q. I mean the Alabama street crossing?

A. Yes, sir.

Q. Every particle of New York Central freight that comes here for transshipment by freight crosses the
1717 Erie tracks at grade?

A. On Exchange street; yes, sir.

Q. Every particle of freight that comes by Lake consigned to the New York Central road crosses the main Erie tracks at Alabama street?

A. Yes, sir.

Q. Did you ever go down there and look at that Central crossing?

A. Yes, sir.

1718 Q. At Alabama street?

A. Yes, sir; I am located right there.

Q. Are great delays experienced at that crossing?

A. More or less; but we do not run much freight there; it is most all passenger business.

Q. Your city freight from your Louisiana street freight-house runs there, don't it?

A. Yes, sir.

1719 Q. Now, the delays consequent upon your city freight being blocked at the Alabama street crossing were not sufficient to induce you to put your freight-house at a point easterly of the crossing, were they, your city freight-house?

A. Well, that was not the consideration.

Q. It was not a consideration, it did not amount to enough to be a consideration?

A. No; we had the building and the ground, and

other property; that was the reason of our putting it 1720 where it is now.

Q. Now, let us see about that; in the last three years has not the Erie Railway bought the Exchange street property, between Chicago street and Michigan street, where your milk sheds are, and all that property in there?

A. I can't tell; I don't know; I guess not, though; they might have bought a little parcel of land in there.

Q. You could have used those buildings down there 1721 for the same purposes for which you now use the property west of Chicago street, could you not? You could have economized those buildings, could you not, for other purposes than for a city freight-house?

A. Well, we had a machine shop there—

Q. How far have you extended your city freight-house down there?

A. About two hundred and fifty feet.

Q. You are building on it now, are you not? 1722

A. No, sir; we have got through.

Q. So that you receive all your local freight there, do you?

A. Yes, sir.

Q. All that comes from the city of Buffalo?

A. All the miscellaneous freight.

Q. How many grade-crossings do you know of in the city of Buffalo? 1723

A. I know of three.

Q. You know of the Buffalo Creek crossing of the Lake Shore road, do you not?

A. No, I don't.

Q. Don't you know where the Buffalo Creek road crosses the Lake Shore, just beyond the Buffalo Railroad bridge?

A. Yes, sir.

Q. Do you know of the Philadelphia crossing and

1724 the Buffalo Creek crossing of the Erie tracks? You know of the Erie crossing of the Compromise tracks, the Lake Shore and Central? You know about the crossing of the main lines of the New York Central and the main passenger lines of the Erie?

A. Yes, sir.

Q. You know about the crossing at the International Bridge, below the International Bridge, where the Erie tracks cross the New York Central track, do you not?

1725 A. Yes, sir.

Q. You know of the Suspension Bridge crossing at Suspension Bridge, where the Erie and International crosses the New York Central at grade?

A. It goes over.

Q. It don't go over?

A. Yes, sir, it does.

Q. I am talking of Suspension Bridge. Do you know of but one crossing in the city of Buffalo that is an over-head crossing?

1726 A. No.

Q. Do you know of any other except where the Erie International crosses the yard, and the main tracks of the New York Central?

A. No, sir.

Q. Now, from the position of those crossings, does it not follow that the passenger and freight business of every road entering the city of Buffalo has to be conducted over grade-crossings?

1727 A. What did you say first, I did not understand you?

Q. Can you give me an instance where a pound of freight comes into or leaves the city of Buffalo that does not have to be carried over some other railroad at grade?

A. Yes, on our branch—on our Falls branch.

Q. That does not have to cross any at grade; where do you receive freight on your Falls branch?

A. Well, not within the city of Buffalo.

Q. It has to cross the Lake Shore track? 1728

A. No, sir.

Q. If it starts from the dock it does?

A. Our Falls branch?

Q. That has to cross a grade at Niagara Falls, don't it?

A. I thought you were talking about Buffalo?

Q. That has to cross a grade at Niagara Falls, don't it?

A. I believe it does, yes, sir. 1729

Q. So that, barring the little business you bring and send to Suspension Bridge, every other particle of freight has to be carried over a railroad at grade?

A. All we get from the Great Western and Canada Southern comes up that way.

Q. All the New York Central freight has to cross the Erie tracks at grade?

A. No, sir.

Q. Why not? 1730

A. We go over the New York Central tracks.

Q. You do at one place, but it has to cross the Erie tracks in getting to the dock, or Lake Shore road?

A. Going to the Falls branch and International Bridge it don't cross us at East Buffalo.

Q. But every pound of freight that comes in from the New York Central road that has to be delivered to the city of Buffalo, or that is to be carried west of the city of Buffalo by rail or water has to cross the Erie tracks at grade, does it not? 1731

A. There are cases where they do not cross our tracks; that is for delivery of business at East Buffalo; a good deal of business at Erie street, I think, would not cross our tracks.

Q. How can it get to Erie street without crossing your tracks at grade?

A. Well, they would go around the belt road.

1732 Q. Don't they cross you at the International Bridge at grade?

A. I think not.

JAMES D. HAWKS, recalled on behalf of the petitioners, and examined by Mr. Greene, testified as follows:

1733 Q. Will you state from your knowledge, observation, and experience as an engineer, and in railroad matters, the objections that occur to you to grade-crossings upon main lines of railways?

A. The objections are partly due to the delay caused by grade-crossings, and partly due to the dangers caused by grade-crossing, and the damage to rolling stock and road-bed caused by the crossing frogs.

Q. By Com. McAlpine: The increased damage?

A. Yes, sir; it is increased damage over a straight track.

1734 Q. By counsel, resuming: What do you say as to whether or not they ought to be avoided in all cases where it is possible and practicable?

A. I think that they should be avoided in all cases where practicable.

1735 Q. What do you say in reference to this particular crossing, whether it is practicable and advisable, all things considered, to have an over-crossing upon the proposed altered line, in preference to a grade-crossing upon the proposed line?

A. I think that it would prove a decided benefit and advantage to the Lake Shore Road, to the Erie Road, and to the Lackawanna Road to have an over-crossing at this point.

Q. And all things considered, the benefits and advantages, as well as the expense and injuries to all of these companies—in your judgment, would it be advisable preferable, to have an over-head crossing, as proposed by

the alteration, in preference to the proposed route at 1736 grade?

A. Most decidedly, to the advantage of all roads.

Q. Will you now please state in reference to this particular crossing, some of the special reasons, owing to the peculiar situation of the tracks, yards, and business transacted there?

A. The crossing at that point proposed by the Lackawanna Railroad is especially objectionable, from the fact that it crosses the Lake Shore at the throat of their 1737 yard, and not only crosses the main tracks, but crosses several side tracks as well on the Lake Shore road, so that the objection is not only caused by the number of tracks which it crosses, and the number of crossing frogs which that track involves, but it is also objectionable from the amount of traffic which it causes, and the same applies to the crossing on the Erie road; it crosses only two tracks of the Erie, and crossing with a double-track road it would involve the necessity of putting in four sets of 1738 crossing frogs on the Erie; but the traffic of the Erie road, which it crosses, makes it objectionable, as that traffic is already delayed by a crossing at this point where the Erie and Lake Shore cross, so that it adds to the delay in the passage of trains on the Erie road and on the Lake Shore, being at a point where the delays are already numerous; it would increase those delays, and increase the difficulty of doing a business which it is already 1739 difficult to handle.

Q. And what would you say as to the improbability of being able to handle business, as you express it, or transact the necessary business of the Lake Shore and Erie at that point, with a double track crossing as proposed, at grade, with business such as to warrant the construction of a double track at that point?

A. I think it would very materially interfere and delay the handling of business of both roads at that

1740 point, which interference would affect the business of the Lake Shore road and of the Erie road at other points besides simply the points of crossing.

Q. With the amount of business that was transacted over the Lake Shore in 1880, what would you say as to whether or not it would be a very serious detriment, and as to whether or not there is doubt as to their being able to transact their business, the business of the last year, 1880?

1741 A. I don't think that the business of 1880 could have been transacted over the Lake Shore road if that double-track crossing was in there; I might explain what I mean by that: the business of the Lake Shore Road goes by fits and starts, as you might say—their freight business—there are times when there is a block either on the Central road or some of the yards west, and at those times the business accumulates at Buffalo, or accumulates on the Central road, or accumulates in the west-
1742 ern yards of the Lake Shore road; and when this block exists, the business is very light on the railroad, whether the block is caused by snow, or freshets, or broken bridges, or anything of the kind, the freight accumulates, and then when the cause of these delays is done with, when the blockade is broken, then the road does all the business that can be handled with its existing facilities.

1743 Q. Is that largely increased business sometimes continued for a week or two weeks at a time?

A. Sometimes continues two weeks before the thing is running in a normal condition.

Q. And they are constantly occupied there?

A. They are getting everything out of the yard they can.

Q. What can you say, judging from the past few years—I believe you have stated you have been engaged

upon this road for twelve years—as to the increase of 1744 business upon that road for the last few years?

A. Well, I don't know that I am able to give any figures as to the increase of business, but it has been very largely increased since my connection with the road.

Q. A constant increase down to the present time?

A. We have been during the last twelve years constantly increasing our facilities in the shape of track-room, side-tracks, freight-houses, etc., and are at the pres- 1745 ent time still increasing the facilities.

Q. With a view and expectation of a continued progress and increase in the amount of business?

A. With a view to doing more business than we have been able to do in the past, we are putting in a yard at Collenwood, for instance, with twenty tracks in it.

Q. And the arrangements that you have made and are making, and that are projected, are such as lead you to believe that the business of the road will progress— 1746 that the increase will continue?

A. This extending of the Lake Shore meant that we are going to do more business than we have been doing, and that is why we are getting able to handle more business.

Q. What is this map I now show you?

A. That is an old map of a portion of the Lake Shore yards, at Buffalo.

Q. That represents the situation as it was when? 1747

A. Well, I could not say that it represents the situation as it was at any particular time; some parts of the map are newer than others; some parts of the map have been worked up to a more recent date than other portions; it represents the present situation as far as a good deal of work is concerned.

Q. Does it represent the present situation of the crossing of the Erie with the Lake Shore, of the transfer freight-

1748 house, transfer platform, and the location of the car-shops, and the new engine-house or round-house, and machine shop; does it represent the location of those points?

A. Well, it represents fully the location of some of those points, and some it does not, because there are a great many tracks down there, in the yard, that are not shown on this map.

Q. Taking the yard first, tell us what the material or
1749 principal alterations have been in the tracks since this map was made?

A. Well, as far as this yard is concerned, the yard which crosses Elk street, I think the present number of tracks there now, with an additional track to the gas-house, shown in lead pencil there, that makes eleven tracks across Elk street; I think that part of it there is correct; now, there are other tracks into this block between Fulton street and Elk street which are not
1750 shown there.

Q. Between Fulton and Elk, the yard and Van Rensselaer street?

A. Yes, sir; there are other tracks that are not shown on this map.

Q. Crossing Fulton street?

A. Crossing Fulton street; some cross Fulton street, and some don't cross Fulton street.

Q. Numerous tracks there?
1751

A. There are some three or four tracks there, I should think, running, some of them, clear as far as Van Rensselaer street.

Q. How is it in reference to between Fulton and Perry?

A. I think the situation between Fulton and Perry streets is pretty well represented on this map, except some additional tracks between Fulton street and Perry; starting out of the yard and between Fulton and Perry;

then between Perry and Scott street; we have coal plat- 1752
forms in there which are not shown here at all; we have
three coal platforms in there; that is where all our
engines take coal.

Q. Between the track marked engine-shed and Perry
street, you have those coal platforms?

A. Yes, sir; the map is so old it don't exactly repre-
sent the state of affairs; we have more tracks on the
northerly side of the present tracks shown there.

Q. And coal-sheds there? 1753

A. Coal platforms there; they have tracks on the
southerly side of these tracks shown, leading to the
new engine-house and coal platforms there; they have
wood-sheds still south of that, and tracks, and a coal
platform still south of that, with a center pit, and tracks
out of that, and additional tracks leading into the
engine-house, not shown on this map, additional tracks
leading into the old engine-house from this system of
coaling tracks; and there are additional tracks leading 1754
from the old engine-house to the machine-shop, not
shown on this map; there are two tracks, that have
been denominated the Compromise tracks, leading to East
Buffalo, and only one is shown on this map; there is a
track runs off here and crosses Scott street, south of any-
thing shown on this map; that track that is extended
across Hamburgh street, alongside of the Hamburgh
Canal, and runs down to Rumsey's tannery, at the ex-
tension, is not shown on this map; and there is a scale 1755
track, in near Hamburgh street, not shown on that map,
and so on.

Q. What would you say as to its being practicable
to move the throat of your yard, as you term it, down
to the northward, so as to do the switching which is now
done at and near the proposed crossing, north of the pro-
posed crossing—could the yard be extended to the

1756 northerly, so as to furnish you proper facilities for doing your business?

A. The throat of the yard can be extended northerly, but if it is, it cuts the yard off, so that the yard is useless—so that the yard proper cannot be extended northerly.

Q. And would it cut it off here, so as to be practically useless as a yard?

A. It would be of no value as a switching or receiving yard if it was extended northerly.

Q. This present yard, and the buildings, shops and tracks have all been placed in accordance with a system adopted by the company for the transaction of its business, such as were regarded necessary, and the best that could be made considering the ground they had to work upon, were they?

A. The system of tracks represents the growth of the business of the Lake Shore road; there have been 1758 added track after track, as the necessities of the business of the road demanded.

Q. And in the best manner and form which the engineers were able to conceive or design?

A. Were able to conceive with their limited knowledge as to what was to happen in the future.

By Com. McAlpine: Q. Such additions have been proven to have been necessary by the subsequent circumstances?

1759 A. By the constant use to which every track in the yard is put.

Resumed by counsel: Q. And is it not a fact that their conveniences there now are limited to such an extent as at times to be the cause of great inconvenience in the transaction of their business?

A. The conveniences there are so limited that a few years ago the Lake Shore folks went with their through

business to East Buffalo, where we have very extensive 1760
yards.

Q. Are they so limited now as to frequently cause difficulties and obstructions in the transaction of their business?

A. Very frequently cause delay in the transaction of their every-day business.

By Mr. Locke: Q. What did you say about the yard at East Buffalo?

A. I said the company had been forced to take this 1761
through business to East Buffalo.

Q. Where they have extensive yards?

A. I did not say so, did I?

Q. Didn't you say anything about extensive yards?

A. Did I? Did I say so? That was the through
business.

By Mr. Milburn, resuming: Q. When was the gauge of the Erie road changed from wide to narrow?

A. I understand that has been rather of a gradual 1762
process, but I couldn't perhaps give you the year.

Q. About how long ago was it completed?

A. About 1875 or 1876, or 1877, along there; in fact it is not entirely completed yet.

Q. Previous to that change, the only transfer of freight was from car to car, was it not?

A. We had the transfer-house in there previous to the change in the Erie road, and the Erie track crossed our track; their gauge was a six-foot gauge, at that time; 1763
there were none of our engineers who could foresee that their gauge was to be changed to the standard gauge; we had the transfer-house there, and transferred freight from our cars, which were of a gauge of four feet nine and a half, to the Erie cars, which were six feet, simply transferring freight from car to car; there was no change of transferring cars from our road to the Erie road, because their gauge was six feet, and ours was four feet

1764 nine and one-half inches since the crossing was put in, and since the transfer-house was put in they have changed their gauge, and now it is possible to transfer cars from our road to the Erie road, and there is a large business done on the Lake Shore in Erie cars.

Q. Have you examined the map of the city of Buffalo here, on which is laid down in red lines the proposed location of the Lackawanna road?

A. Yes, sir.

1765 Q. Have you examined the location of the lines "A," and "B," upon that map, and are you acquainted with ground in the locality?

A. I am somewhat familiar with the grounds in that locality, and I have examined the lines "A" and "B," laid down on that map.

Q. State whether as an engineer, or otherwise, you are enabled to discover any necessity for the construction of both of those lines, "A," and "B"?

1766 A. I have been unable to discover any reason for having two lines in as expensive a place to build lines as that is, where one line appears to be able to do the business.

Q. The line "B"?

A. The line "B," seems to me amply sufficient to do any business in that location.

Q. And no occasion whatever, that you can observe or discover, for the construction of the line "A"?

1767 A. I can see no occasion for the construction of line "A"; I understand there is to be a double track across the Lake Shore road and the Erie road, and whether line "B" is to be a double track or not, I don't know, and whether line "A" is to be a double track or not, I don't know; but provided line "B" and "A" were single tracks, and the balance was double track, it would be perhaps a more foolish arrangement than though they were all double tracks.

Q. That is, to split the tracks apart, and have one 1768 upon line "A," and one upon line "B"?

A. Yes, sir.

Q. It would be better, in your judgment, to continue the double track over line "B"?

A. Yes, sir, I think there could be more business transacted on a double track on line "B," than a single track on line "A" and line "B," coming together at a point near the Philadelphia crossing there, and again at a point near the Lake Shore crossing? 1769

Q. Meeting the track at this point?

A. Yes, sir.

By Com. McAlpine: Q. Suppose each of these are double tracks, then can any more business be done upon the whole road, having two double tracks—suppose lines "A" and "B" to be both double tracks, could any more business be done over those two lines combined than could be done over the single line westerly of the proposed crossing, a single double-track line west of the 1770 proposed crossing?

A. I should say not; I should say that these two tracks had no more capacity, lines "B" and "A" both, as double-track lines had no more capacity for the handling of the business than the lines west of the proposed crossing as a double-track line, because it is a double track also north of the Buffalo and Philadelphia road, and the business would come on a double track line to two double-track lines to come together and go over a 1771 single double-track line, so that, as far as through business is concerned, there could be no more handled over line "A" and line "B" both as double-track lines, than there could be over one double-track line on the line "B."

Resumed by counsel: Q. One double-track line, in other words, connecting the main line north of the Philadelphia road, and the main line west of the proposed

1772 crossing, would answer every purpose that two double-track lines would?

A. I should say so; in other words, that the mere making of four tracks instead of two, for half a mile or so, on this Lackawanna road would not increase the capacity of the road.

Q. The capacity of doing the work on those two lines is limited by the capacity of doing the work on that line west?

1773 A. Yes, sir; it is limited by the freight which comes to those two lines, and which leaves those two lines from that direction.

Cross examination, by Mr. Locke :

Q. How old a man are you?

A. I am thirty-three, I think; you and I used to play marbles together; about the same age, I think.

Q. How long have you been division engineer?

1774 A. I have been on the Lake Shore road, in the engineer's department, for the last twelve years.

Q. How long as clerk?

A. I never was clerk on the Lake Shore road.

Q. Have you been division engineer for twelve years?

A. My rank at the present time is assistant engineer of the Lake Shore road.

1775 Q. How long have you been assistant engineer of the Lake Shore?

A. I think it is since 1877.

Q. What were you before that?

A. I was engineer in charge of the Erie division previous to that.

Q. What is the Erie division?

A. From Erie to Cleveland.

Q. How long were you in charge of the Erie division?

A. From 1875 to 1877.

1776

Q. What were you before 1875?

A. I was assistant engineer on the Buffalo division.

Q. Who was your engineer?

A. Mr. Emslie was the engineer of the Buffalo division at the time I was assistant engineer.

Q. How long were you assistant engineer for the Buffalo division?

A. From the time I came on the road in 1870, until the time I left the division in 1875; about five years. 1777

Q. So that your experience on the Lake Shore commenced in 1870?

A. It commenced in the winter of 1869 and 1870.

Q. Does the map marked, for identification by the stenographer, "B," correctly show the Lake Shore lands between the Erie crossing and the engine-house, or round-house?

A. Yes, sir, I think it does.

Q. Is the Lake Shore in possession of all the lands within the yellow boundaries shown upon that map? 1778

A. Yes, sir.

Q. And it has been in such possession for how long?

A. I should say for the last ten years, anyway; I don't know the exact date of some of the purchases.

Q. Barring the improvements which you have mentioned in your direct examination, are there any other changes which should be made in this map?

A. Well, I would not say that this map is correct as to the Erie tracks; I have not said so. 1779

Q. I don't mean as to Erie tracks, I mean as to the Lake Shore tracks?

A. Well, we have some buildings that are not on this map.

Q. Is there anything between the Abbott road, the Lake Shore, and the Erie track, except as shown upon this map?

1780 A. The Abbott road don't cross the Lake Shore tracks there.

Q. The Abbott road, the Lake Shore tracks and the Erie tracks, except as shown upon this map, that is that part of lot 57 south of the Erie tracks?

A. There are some tracks shown here in lead pencil that are not there.

Q. There are some tracks shown in lead pencil?

A. Yes, sir.

1781 Q. When were those lead pencil lines put in?

A. I haven't the most remote idea, sir.

Q. Then at some time you have intended to make some other tracks to the north of the transfer-house, have you?

A. I don't know anything about it.

Q. There are some tracks laid down there in pencil?

A. Yes, sir.

Q. To the north of the transfer-house?

1782 A. To the north of the transfer-house; some stub tracks.

Q. When were they put on that map?

A. I haven't the most remote idea.

Q. Did you put them on?

A. No, sir.

Q. Do you know who did?

A. No, sir.

1783 Q. Do they appear to have been put on by some engineer?

A. Your engineer might have put them on there for all I know; I did not put them on; I telegraphed to Cleveland to have a map sent; this was not the map I sent for; it was sent to me.

Q. Do you think some one in the Lake Shore office has put them on?

Q. What could be the object of putting new tracks on that map in that place?

A. I don't know what the object was. 1784

Q. You cannot imagine, can you?

A. If you want me to imagine, I will let my imagination have free play, and perhaps I can solve it.

Q. You think you could suspect the occasion of putting on those tracks in pencil, do you?

A. I think, perhaps, I could suspect what it was.

Q. Well, it was to get more storage room, was it not?

A. Well, I am not going to suspect anything about it. 1785

Q. You don't want to suspect?

A. No, sir; I have told you I don't know anything about the track; now, as far as guess-work is concerned, I don't propose to go into it.

Q. Those tracks could be almost indefinitely multiplied in the same way that you have them there in pencil?

A. No, not indefinitely, that would not express it.

Q. You could have twenty or thirty, could you not? 1786

A. No, sir.

Q. How many could you have?

A. There is only really one track shown here; you have used the word "tracks." There is only one track shown in pencil.

Q. There is a part of another track?

A. Well, there is part of another track which apparently wouldn't work in, wouldn't connect.

Q. You have no suspicion what those were put on there for? 1787

A. No, sir

Q. Nor when they were put on?

A. No, sir.

Q. And as an engineer you couldn't form any judgment as to how those marks came upon that map, or what the object of the man was who put them on?

1788 A. They have evidently been put on the map to see how tracks in that location would work.

Q. That is the best judgment you could form on the subject?

A. Of course, not having put those tracks on there I don't know whether it was a success or not; from the fact that they are not put in on the ground, I should infer not.

Q. Has the Lake Shore any lands at East Buffalo?

1789 A. I didn't say we had any lands at East Buffalo?

Q. I ask you if you have any lands?

A. No, sir.

Q. Have you any transfer tracks at East Buffalo?

A. Yes, sir.

Q. How many?

A. There is a transfer-house there, belongs to the Central road.

1790 Q. Have you any transfer tracks there at the Central road?

A. We don't own any lands at East Buffalo, and we don't own any tracks at East Buffalo.

Q. Have you ever laid any tracks at East Buffalo?

A. I think we have laid two or three what we call cripple tracks along William street at East Buffalo.

Q. What distance?

1791 A. I don't know, they are simply to store cars on to take manure out of cattle cars, and to store crippled cars on while slight repairs are being done.

Q. How long tracks have you laid at East Buffalo?

A. They may be a thousand feet long, and they may be fifteen hundred.

Q. You don't know?

A. I don't know, they are stub-tracks, they don't connect with anything except at one end.

Q. Have you any arrangement with the New York

Central Road, to your knowledge, relative to the use of 1792 tracks at East Buffalo?

A. Yes, sir; we have an arrangement.

Q. You have certain tracks at East Buffalo which are known as Lake Shore tracks?

A. Which the Lake Shore keep up. They are on New York Central territory, but the Lake Shore keeps them up.

Q. How many of those tracks are there?

A. Well, I couldn't tell exactly. There may be 1793 thirty or forty of them.

Q. How long are they, on an average?

A. From a thousand to fifteen hundred feet, it is all simply guess-work.

Q. Your best judgment you are giving?

A. Yes, sir.

Q. Have you had anything to do with those tracks, personally?

A. Personally, no, sir; except to make a map of 1794 their yard. I have made a map of their yard out there, and if I had known you wanted it I could have had it and shown the whole thing.

Q. This Erie crossing is a great objection to your yard?

A. Decidedly so.

Q. Very seriously so?

A. Very seriously so.

Q. And I suppose Elk street is a very serious ob- 1795
jection to your yard?

A. Yes, sir.

Q. And Fulton street?

A. Yes, sir.

Q. And Perry street?

A. Yes, sir.

Q. And Scott street to a certain extent?

1796 A. Yes, sir; all making up a very serious complication.

Q. They do make up a very serious complication; why don't you put your yard south of Buffalo River, on the Tifft farm?

A. The Tifft farm is overflowed whenever there is high water on the lake or river.

Q. Is your track overflowed on the Tifft farm?

A. Our track is some five or six feet above the level
1797 of the land on the Tifft farm, and I have known our land to be overflowed.

Q. You have known it?

A. Yes, sir.

Q. How many times?

A. I don't know as I can state definitely.

Q. Have you ever known it to overflow but once?

A. I think we have had trouble there two or three
1798 times from water; perhaps the trouble might have been from the water being so close to the track that we have been fearful it would overflow.

Q. Now, have you had any trouble on the Tifft farm a thousand feet above the bridge?

A. That is not on the Tifft farm.

Q. Have you had any trouble with water from a point a thousand feet south of your bridge over Buffalo River to a point three thousand feet south of your bridge?

A. That would give us a total of four thousand feet
1799 west of the river.

Q. Three thousand feet from the bridge; it is on the second or third thousand of the three thousand feet?

A. About two thousand one hundred and twenty-six feet will take us to the crossing.

Q. Now for a thousand feet or two thousand feet south of the Buffalo Creek crossing, have you had any trouble?

A. I think we have within that distance.

Q. Now, will you swear that you have had any trouble there within three years or five years or ten years?

A. Yes, sir.

Q. You will swear to that positively?

A. Yes, sir.

Q. When?

A. I think the last time—well, some three or four years ago we abandoned the north track entirely across the Tiffit farm on account of water.

Q. From where from Tiffit street.

1801

A. We abandoned it all the distance across Tiffit's farm.

Q. That is from Tiffit street.

A. No, sir; when we abandoned the north track we abandoned it from Hamburg to Buffalo; that is what we do; but the trouble was the Tiffit flat.

Q. You abandoned the north track within three years from Hamburg to Buffalo?

1802

A. I think we have.

Q. Will you testify absolutely?

A. I will testify absolutely, except my memory of dates.

Q. Will you testify that you abandoned the north track absolutely from Hamburg to Buffalo since you have been connected with the Lake Shore road?

A. I have, yes, sir, owing to trouble from water.

Q. How far is Hamburg?

1803

A. About ten miles.

Q. From where?

A. Buffalo.

Q. What point in Buffalo?

A. Buffalo depot we measure from; I have measured it, and the mile post is this side of Hamburg.

Q. Can you give the elevation above low water in Lake Erie of the land of Gen. Howard's farm where the Lake Shore crosses it?

1804 A. No, sir.

Q. Can you give the elevation of any point on your road south of Buffalo River?

A. I don't carry those things in my head.

Q. Have you any profile here that will show it?

A. We have a profile here, but I wouldn't say it would show that; it was not taken in reference to that, and I would not say that it would show it?

Q. How high is your track, say at the Buffalo Creek
1805 Railroad crossing, above low water in Lake Erie?

A. Well in the neighborhood of twelve feet.

Q. It is so on the profile?

A. Well, I don't say that entirely from the profile, because I didn't make it, and I don't know that the base line is assumed correctly on the profile at water level, because there was nothing said about water when it was made?

Q. What is the base line of levels on the Lake Shore
1806 road in reference to low water in Lake Erie, or in reference to tide-water?

A. Well, we call our base line the ordinary water level of Lake Erie; that is our base line.

Q. Now, what is the elevation of the Buffalo Creek crossing as shown on that profile ("Exhibit 5")?

A. About twelve feet and twenty-one one-hundredths above the base line of the profile. Now, I don't say that
1807 this base line is any particular water level of Lake Erie, because I don't know; I presume it is an assumed base line; it is either an assumed base line or a base line arrived at from taking some bench mark, which may not be accurate.

Q. How long has the Buffalo Creek Railroad been built?

A. I should say 1871.

Q. Ten years?

A. Yes, sir.

Q. Have you ever known the tracks of the Buffalo 1808 Creek Railroad to be under water?

A. I don't know that I have, no, sir.

Q. Have you ever known that road to be impeded in its operation by water?

A. I don't know anything about the Buffalo Creek Road, except immediately in the vicinity of its crossing with our road.

Q. And have you ever known the crossing of the Buffalo Creek Road with the Lake Shore Road to be cov- 1809
ered with water?

A. No, sir.

Q. The map here which is produced, and marked "B" for identification, showed the Lake Shore land as it was marked in yellow, did you not?

A. Yes, sir; I think it shows our land, so far as it shows it all, correctly.

By Mr. Greene: What do you say as to the practica-
bility of using this triangle for yard purposes?—is it 1810
available, or is it too short?—how many cars in length
would it contain?

A. We are using at present all of that triangle for
yard purposes that is practically available, with switches
from the Lake Shore main track, without crossing the
Erie crossing; you will see how these switches come out;
they leave the Lake Shore main tracks with our standard
frogs and switches, and come out here one after the other, 1811
and to use the next track, to come out south here, it
would be so short that it wouldn't hold a train, and we
have all the tracks in there now that we can get out
without we put the switch south of the Erie crossing, in
which case we would have to switch everything over the
Erie crossing, the same as we do now.

Q. So that even if it was possible or practicable,
which you say it is not, to fill that triangle with tracks,

1812 it would not affect the necessity of switching across the Erie tracks and the point of the proposed route as now?

A. It would rather increase the necessity, because to fill this triangle with tracks, if possible, would be to fill it with stub-tracks, and to get anything over from those stub-tracks it would have to be switched over the Lackawanna and Erie crossing, which would make more switching than now.

Q. Would make more switching over their proposed
1813 line than there is at present if it was used?

A. Yes, sir.

Q. When you came upon the Lake Shore road, was it a single or a double-track road?

A. It was known as a single-track road; it was double tracked from Buffalo to Cleveland in 1872; I had charge of the grading on the double track.

Q. And was the Erie a single track also?

A. The Erie was a single track across our tracks also.

1814 Q. And the crossing then existed?

A. And the crossing then existed; this yard has mostly been built since.

Q. The increase of tracks and the increase in traffic has continued from day to day to increase the difficulties at that point, has it; the difficulties growing out of the crossing there?

A. We have only a single track from the Erie cross-
1815 ing to our depot for passenger trains now, which is a disadvantage we have been trying to obviate for sometime, but have not seen a plausible solution of the thing yet; but the business has increased here from month to month and from year to year, and the increase of tracks has been owing to the increase of business, and as the business increased the difficulties at that crossing also increased, with the delays and detentions; they are greater by the increase of business than they were at the time I came on the road.

Q. And you have made all the improvements and alterations there within your power, as you understand it, to relieve it, as far as possible, from the difficulties caused by the Erie crossing there? 1816

A. Well, I don't know as I would say we have made all the improvements that is possible, because we have some other things in contemplation now that may help us a little; all that have been made have been made with a view to transact the business with as little delay as possible. 1817

By Mr. Locke: Q. I suppose the business of the Lake Shore Road ebbs and flows with the other business of the country; in flush times you do more business and in hard times you do less?

A. I suppose that is so, sir.

By Mr. Milburn: Q. Is there not, apart from any ebb and flow in the business of your line, has there not been a steady normal growth? 1818

A. The business is very much greater than it was when I first came on the road; that is, what we call a dull time now, in former years we would have called a very busy time, and what we call a busy time now, formerly we would call a rush, and what we call a rush now is the most constant use of all our facilities.

JOHN S. HAMMOND, recalled on behalf of the petitioner and examined by Mr. Milburn, testified as follows: 1819

Q. Is this transfer-house indicated on the map "Exhibit 3" in service now, although there is no longer a transfer of freight made necessary by the Erie being a different gauge from the Lake Shore road?

A. Yes, sir; we use it a good deal.

Q. How does it come to be used?

A. It is used on account of freight being mixed; that is, freight for different points necessary to unload to

1820 distribute in the proper cars, and also on account of crippled cars; there are various reasons why we have to use it.

Q. And does that keep that transfer-house pretty busily used?

A. Yes, sir.

Q. You spoke of impediments to the business restricting you at the Ohio street basin, that you lost business; can you give us instances of how business will arise in
1821 the city of Buffalo which you can only take by getting your cars out quickly, and as free from obstruction as possible?

A. Yes, sir; at certain seasons of the year a very large amount of grain is offered to us, and the railroad transportation lines are all full, they are working up to their capacity; a man would come and tender us fifty or sixty or a hundred thousand bushels of grain if we could get it right off; if we can't dispose of it promptly he
1822 will give it to somebody else, in some other way—make some other disposition of it.

Q. That would be one hundred to one hundred and fifty cars of grain?

A. Yes, sir.

Q. Such impediments as these, limiting your capacity to get rid of freight, at times interposes to deprive you of business of that character?

A. Yes, sir, prevents our loading all the cars we could
1823 if we were not obstructed.

By Com. Clark: Q. To recur to the subject of delays at the crossing of which you have spoken, I will ask you if all of the transfer business between the Lake Shore and Erie was wholly removed from this Sandusky street crossing, and done at some other place, how much of the present delays at this place would be removed?

A. Well, that would not affect it so very much, because our main business crosses those tracks, the Lake

Shore business crosses the main tracks, passing back-wards and forwards, and ours crosses theirs, all the business going to and coming from there crosses those tracks, the switching business would affect it of course some, but what we call the main movement would be just the same in that case as it is now. 1824

Q. Suppose this transferring and everything of that character was taken away, and it was simply the Erie tracks going through, and the Lake Shore track going through? 1825

A. It would make a great deal of difference.

Q. What proportion should you say?

A. Well, nearly half, if you could take the business west of that track, what we call west, that comes in from the west, to do all that switching, it would make a great difference; if you took it across the track, and went east with it, would have almost the same thing, although it would be relieved considerably. 1826

Q. In the case which has been stated to you, would the delays be the same amount as they would be at any other crossing where an equal and similar business was done by the two roads, would the delays be the same as at any other crossing, assuming that you have a similar amount of business by the two roads, take away this question of difficulties of doing business in your yard; take away all the yards and all the switches and the transfer business, then would there be any more delay there than there would be at any other place where a similar amount of switching is done? 1827

A. No, sir.

Q. You may now state what proportion, in your judgment, of the delays you have spoken of, is due to the switching which has been spoken of in the transferring of business from one road to the other?

A. Well, sir, I don't know, I would hardly like to

1828 give an opinion about that, there is a good deal to figure on, I should say it would make a half difference anyway.

Q. Does not this Lake Shore yard, all the business that is done there in making up and distributing the trains, the exchange business that is done here between the Lake Shore and the Erie, and the transfer freight house business, more than double the delays that would exist if the two lines simply crossed each other, and this amount of business passed over them?

1829 A. Yes, sir, it does double it.

Q. Well, does it not more than double it?

A. Yes, sir, I think it more than doubles it.

Q. Does not all the switching, and going backwards and forwards, and making up the trains, introduce an element into the crossing which multiplies the delay far more than if simply the trains were coming out full, loaded trains, passing over at the crossing?

1830 A. Yes, sir, but you have got one thing in favor of the switching, the switch engines will stop and get out of the way, while you have got to wait for freight and passenger trains; the yard-master is here, and he will know more about this question than I do; these trains come in long trains, going down through slowly, while the switching is done in a different way; of course in operating it we can see why we are bothered, and we see also that it affects us differently at different times; I should hate to
1831 give an estimate, because I am not there enough to see it all.

JAMES BARRETT, sworn on behalf of the petitioner, and examined by Mr. Milburn, testified as follows:

Q. You are the yard-master of the Erie company, as we call it, at this point in question?

A. General yard-master in Buffalo.

Q. And is this place indicated on this map "Exhibit 3"

part of the system of tracks, so far as the Erie is concerned, within your jurisdiction?

A. Yes, sir.

Q. And are you there a good deal of your time?

A. Yes, sir, from two to three times a day back and forth.

Q. What are the duties of a yard-master?

A. Making up of all trains bound east and west, distributing of all town freight, waiting on freight-houses, supplying cars for elevators, waiting on coal yards, despatching all freight trains east and west out of Buffalo.

Q. Then the movement of all cars and trains, so far as the Erie is concerned, at this point, is within the line of your duty?

A. Yes, sir.

Q. And all the working of trains that goes on there you are the chief of?

A. Yes, sir.

Q. And how long have you been in that position? 1834

A. I have been general yard-master for nearly a year.

Q. How long have you been in that department?

A. Two years.

Q. How long have you been acquainted with this system of tracks here?

A. Eight years.

Q. How much a day are you there?

A. Oh, probably three hours a day in the aggregate. 1835

Q. Watching and directing the movement of cars?

A. Cars and trains.

Q. This is a place where you do your exchange business with the Lake Shore?

A. Yes, sir.

Q. The Lake Shore Company have a yard-master?

A. Yes, sir.

Q. Who is he?

1836 A. Mr. Walrath is general yard-master of the Lake Shore road.

Q. Who is under him?

A. John Latchford is directly under him.

Q. What are the general rules of working the target there with reference to trains getting the crossing?

A. Well, no freight train is allowed to cross there on a passenger train's time.

Q. If an Erie freight train comes up to the crossing
1837 and a Lake Shore passenger train is due there, although not in sight, can the freight train take the crossing?

A. No, sir; the man in charge of the target will not give it to us.

Q. You have to wait until the passenger train comes along or until some word is received that she is late?

A. Yes, sir.

Q. Have you any card time on the trains that pass over the Erie at this point?

1838 A. No, sir.

Q. No passenger trains pass over the Erie road at this point?

A. No, sir.

Q. And the passenger trains that you have to wait for are simply the Lake Shore passenger trains?

A. Yes, sir.

Q. Now, as between freight trains, what is the rule?

1839 A. The Lake Shore takes the right of way from us, when we have a train there and they have a train there the Lake Shore takes the preference, gets it from the man at the target, that means a through freight train.

Q. Talking about a through freight train, if a Lake Shore and an Erie train is approaching the crossing, the Lake Shore takes the crossing?

A. Yes, sir.

Q. What do you call approaching within sight?

A. Yes, sir; within sight.

Q. And what is the range of vision there of the tar- 1840
get-man?

A. He can see a west-bound train from the target to
the round-house.

Q. How far is that?

A. Well, I could not say exactly, it is between a
thousand and two thousand feet, the Lake Shore round-
house.

Q. And an east-bound train he can see how far?

A. He can see an east-bound train the other side of 1841
the Buffalo Creek Bridge.

Q. How far is that?

A. I could not say.

Q. Give us a rough guess, two thousand feet?

A. I would not like to guess, I have no idea of the
distance; I guess about two or three thousand feet, when
I said in sight I meant about as far as the Buffalo Creek
Bridge.

Q. A train approaching the track at the Buffalo 1842
Creek bridge generally gets the track in preference to
the Erie train crossing, no matter how near the Erie
train may be.

Q. And a west-bound Lake Shore train at the round-
house gets the target in preference to the Erie train, no
matter how near?

A. Yes, sir.

Q. Then that question of distance cannot come up in 1843
reference to Erie trains going over first?

A. No, sir.

Q. Because if there is a Lake Shore train in sight it
gets the crossing?

A. Gets the crossing.

Q. What are the rules in regard to switching engines.
Have they to wait on the passenger trains and the
through freight trains just the same as the other trains?

A. Yes, sir; the Lake Shore switch engine is not al-

1844 lowed to use the track on passenger train's time unless we have orders from the train dispatcher.

Q. And if the Lake Shore through trains are in sight at the points you have indicated, are the switch engines allowed to use the track?

A. That I could not say, that is a matter regulated in the Lake Shore yards.

Q. How about your Erie switch engines, are they allowed to take the target when a Lake Shore train is in
1845 view at the points mentioned?

A. No, the man at the target don't give us the target.

Q. When a Lake Shore train is in sight at the points you have mentioned, neither your through freight trains nor your switch engines are given the target?

A. No, sir.

Q. How about switch engines of the Lake Shore and the Erie together, how is that governed?

1846 A. Well, the Lake Shore has a double track there. They can have two switch engines working, and one can get the target in preference to us, and the other can pull up there and work till they get their work done, and it is a rule they shall get their work done after they get the target when they once take it. They do considerable switching on the crossing, sometimes delay us half an hour.

1847 Q. But a Lake Shore switch engine comes up and gets the target and another switch engine of the Lake Shore comes up, they keep the crossing till they both get through?

A. Until they both get through. A lake Shore train going into the yard can have the track, a Lake Shore switch engine can stand on their side-track in the yard, and just as soon as the train will cross the switch engine can pull right up and get the target away from us and hold it.

Q. Do the Lake Shore switch engines take any preference over the passing freight trains on the Erie? 1848

A. Yes, sir.

Q. So that if a Lake Shore switch engine get this crossing, and another switch engine comes up, they can hold it until they both do their work, and in the meantime block your freight trains?

A. Block our freight trains—yes, sir.

Q. As well as your switching?

A. Yes, sir; understand the target is always set for 1849 the Lake Shore; it is always right for the Lake Shore, and it is only given to us when the way is clear and the target man tips the target.

By Com. Clark: Suppose the Erie gets the target?

A. Then they take it, and work till they get through; if we get blocked either way, our men cut the crossing, and let the Lake Shore have it if there is any trains there waiting for it—through trains, or there is no chance for us to get either way, as it sometimes happens there, 1850 get crowded working both ways, working on a single track, we open it, and let their switch engines do their work; we accommodate each other as much as possible.

By Mr. Milburn, resuming: Q. What do you say as to the delays there imposed upon trains generally?

A. Well, we have sometimes been there with two and three trains ready to cross, and have to wait half or three-quarters of an hour before we would get by. 1851

By Mr. Locke: Q. Because of through freight trains?

A. Because of through trains, passenger trains and switch engines in the Lake Shore yard.

By Com. Clark: Q. Does such an occurrence happen often?

A. In busy times on both roads it occurs quite frequently; we have by bad blockades at that point.

1852 By Mr. Milburn, resuming: Q. And what is the average of delays of trains?

A. Well, that is a pretty hard thing to answer.

Q. Make a statement in your own way, just telling us how these delays occur?

A. Well, there are times when we have an engine at Ohio street, or in the Ohio street yard, ready to go out with 35 cars; it is a very bad place to start a train from, and we may get the target before we start, pull up there, 1853 and any little obstacle that may turn up, and another engine dodging in there and stopping the engine coming out, or may pull a draw-head out, or an engine may stall; then we have to back way down again, and there has been occasions when we have pulled out of that switch three or four times before we would get over the crossing, because we would be so long in getting there that freight trains would show up and pull down over the crossing; the target taken away from us, and the Lake 1854 Shore trains pull over; we would have to back down and get another start; it takes an engine an hour and a half, sometimes two hours, to get out of there with one train on that account.

By Com. McAlpine: Q. You can see the target from Ohio street?

A. From Hamburgh street around the curve we can see the target from the top of the car; we cannot see it 1855 though, after we leave Hamburgh street, until we pull up over Katharine street.

By counsel, resuming: Q. How does blocking on one side tend to block your railroad on the other side of the crossing?

A. Well, we give engines coming from Ohio street the right of way, when the target is right for an engine coming from Ohio street; engines coming the other way have to go back to the junction and wait till they pull

out; it detains sometimes two or three engines going 1856 both ways.

By Com. McAlpine: Q. It is only a single track now?

A. It is only a single track now.

Q. The map shows it as a double track?

A. It has not been connected yet.

By counsel, resuming: Q. In other words, even with a double track there, a block of your trains on the Ohio street side of the crossing, that is, a block of trains coming from the Ohio street freight-house, and they not being able to get command the crossing, does it in a great many cases tend to accumulate trains on the other side of the crossing? 1857

A. Yes, sir, that is what I say; the engines coming down from Ohio street have the right of way, and they don't allow the engines going toward Ohio street to cross there till that engine gets out; we have to establish rules for the men to work by on a single track. 1858

Q. But with a double track, that, I understand you, to some extent would be alleviated?

A. Yes, sir.

By Com. McAlpine: Q. Wholly?

A. With a double track we would have the same use on that crossing as the Lake Shore has—when we would get the target for an engine coming from Ohio street, at the same time an engine could use that crossing going in the opposite direction. 1859

By counsel, resuming: Q. Is there a great deal of switching done at this point?

A. Yes, sir, a great deal of switching done there.

Q. In what business?

A. In the delivery of west-bound freight to the Lake Shore road; also in the delivery of loaded cars to the Delaware and Hudson Coal Company dock; they have a big trestle at Hamburg street, and very often have to

1860 use the Lake Shore crossing to take a train of empties out of that dock ; when we are crowded at Ohio street there is an accumulation of empties on the Delaware and Hudson dock ; we have to use the Lake Shore crossing to relieve the Delaware and Hudson folks of their empties.

Q. Now, what switching is done, is there not a great deal of switching done there by the Lake Shore people?

A. Oh, yes, sir.

1861 Q. Right over the crossing ?

A. Right over the crossing there is a great deal of switching.

Q. In what business is that switching, generally ?

A. Generally the bulk of their switching on that crossing is their east-bound business.

Q. Now, how much of the time do you say that that crossing is occupied, either by cars actually crossing, or by cars moving up to it that have command of the
1862 crossing ?

A. Almost constantly in use.

Q. Do you mean night and day ?

A. Yes, sir.

Q. If you were lumping up the number of hours that it is in use during the day, what would you say ?

A. Well, from fifteen to eighteen hours, to lump it all up, that it is in use during the day.

Q. Then the times that it is not in use is that scattered through the day in intervals ?
1863

A. Intervals ; yes, sir.

Q. Varying from what ?

A. Well, I think it is safe to say that that crossing is never idle fifteen minutes, more than fifteen minutes, at any one time through the day. Through the night there are times when it is not quite so busy.

Q. Through the night there are longer intervals ?

A. Yes, sir.

Q. And of course, I suppose there may be slack times 1864
in the business of the roads?

A. Certainly.

Q. When the intervals are longer?

A. Yes, sir.

Q. But in your busy times, when freight is running
heavy on both roads, then you would say that the inter-
vals are seldom longer than fifteen minutes?

A. In the day-time.

Q. Does the delay there, of your trains, delay every 1865
train between the elevator or the terminus of this freight
track and the Ohio street freight-house? No, I will ask
you, a point how far east?

A. A delay at that crossing, and a train getting out
from Ohio street, will sometimes hold three or four en-
gines that are going in the opposite direction.

Q. That is, that are coming from Exchange street?

A. East Buffalo to Ohio street.

By Mr. Locke: Q. That could all be remedied by a 1866
double track, could it not?

A. It could be materially changed.

By Mr. Milburn, resuming: Q. If you have a double
track there, and the Lake Shore has control of the cross-
ing, that certainly does not remedy your delay to these
trains that are coming?

A. Not when the Lake Shore has the target.

By Com. McAlpine: Q. The same cause that delays 1867
your trains going out from Ohio street, delays your
trains going into Ohio street?

A. Yes, sir.

Q. Whether your track is single or double?

A. Whether our track is single or double; yes, sir.

By Com. Clark: Q. But I understand you that when
you have a double track, you can use the track going
both ways at the same time?

1868 A. Yes, sir ; but when they are detained on one side they would be on the other.

Q. But you will be able, with your double track, to block the Lake Shore business a little more than you do now?

A. Yes, sir ; we will have the same chance to use the crossing that we do now.

Q. Take another grade-crossing just at the point indicated on the map by the Lackawanna, with that a
1869 grade-crossing over there of a main passenger line into the city of Buffalo, a coal line, their city freight line, what would you say as to the effect of that upon doing your business there?

A. It would throw us back so that we could do just about—well, we could not do much more than half the business we are doing now. The business that lays still now on account of crossing the Lake Shore would be just doubled, that is, there will be double the stand-
1870 still.

Q. That would depend, of course, to some extent, upon the amount of business done by the Lackawanna Road?

A. Exactly.

Q. But you are judging that how?

A. Taking that at about the same business the Lake Shore Road has.

Q. That would stop not only your through trains, that Lackawanna crossing, but would stop all the switching there?
1871

A. Yes, sir.

Q. And all the switching of the Lake Shore Road there?

A. Where they use it there is a delivery there, we deliver our west-bound freight on that, and that would cut that in two; an engine would probably sometimes lose fifteen or twenty minutes getting down there.

Q. That is, in approaching on the main track of the 1872 Erie to go to the dock track, she might lose fifteen minutes there?

A. Yes, sir.

Q. And then going further down and switching onto the dock track, and coming back she has to cross the Lackawanna again?

A. Yes, sir.

Q. And may be delayed there at that crossing?

A. Yes, sir.

1873

Q. Then what becomes of her, does she draw it out again from the dock track?

A. No, she delivers it here to the Lake Shore on the dock track; we take our freight for delivery to the Lake Shore road off, and back over towards Ohio street, and put it in there; she might wait fifteen minutes for the crossing at the dock-track crossing of the Lackawanna and then pull down and get over this switch to the dock track, and be ready to deliver her freight here on the dock track; a Delaware, Lackawanna and Western train might again have the crossing and detain us fifteen minutes more; the rule is, that all trains come to a standstill at that crossing; that would all depend on heft of the train; an engine going there, and any kind of grade to draw a train on, and has thirty or forty cars come to a dead stop, and wait for the target, to stop again before it would get over the crossing, it is safe to say she would take ten minutes, at the least calculation, with a big train; it takes trains quite a while to get over those crossings.

1874

1875

Q. Taking the amount of business that you have to do, just as it is carried on there, and with another road, with the Lackawanna road coming over there, what would you say as to being able to get your business done; and we will take it in busy times, when the press of business is, what do you say as to being able to get your business done?

1876 A. Well, if the Lackawanna would do all the waiting on both sides of the crossing, we could do the business the same as we do now.

Q. Let us see if that is correct; the Lackawanna waits for you until they get the crossing, it then gets the target, and in the meantime you have a train coming upon your track, and the Lake Shore has a train coming up on its track; now, neither of you can get that target until the Lackawanna gets through using it?

1877 A. Certainly.

Q. The Lake Shore train having come up after yours came up, then you can't get it until the Lake Shore gets through with it?

A. Exactly.

Q. So that the Lackawanna not only delayed you under that state of facts until they got through with the crossing, but it has also delayed you until the Lake Shore gets through with the crossing, because there would have
1878 been no Lake Shore train there?

A. The Lake Shore would cross while the Lackawanna were crossing, if the Lackawanna was not there; if the Lackawanna was not there there would be no Lake Shore there.

Q. You would have got over before the Lake Shore got us; but you lose the crossing, because the Lake Shore has come up while the Lackawanna has the target?

1879 A. Yes, sir; we would lose in that way, but if they did all the waiting, that is, when we got ready if they were out of the way, I don't see that we would lose anything by their crossing, any more than they would have to wait and use the crossing when we or the Lake Shore did not want to use it; when they had it, of course we couldn't get it.

Q. You can't get the crossing when they have it?

A. No, sir.

Q. And if you come up with a train while they have 1880
it, you are delayed then?

A. Yes, sir.

Q. And if a Lake Shore train comes up in the mean-
time, then they take it before you do?

A. Yes, sir.

Q. So that the Lackawanna crossing there has im-
posed both its own delay and the delay of the Lake
Shore on you at that time?

A. Yes, sir, it will in that case. 1881

Q. So that you can scarcely say that a road can go
through there, and do all the waiting, and not interfere
with your business, can you?

A. No, sir, because they couldn't always do it; that
is so.

Q. You can't arrange your business here so as to be
using the crossing part of the time, and part of the time
not using it?

A. No, sir. 1882

Q. You are using it at different times all along during
each day?

A. Yes, sir.

Q. Taking any fair arrangement between the three
roads there, and with that new crossing going over, then
what do you say, in busy times, about your being able to
transact the business of your road there?

A. Well, we couldn't begin to do it as well as we do
with one crossing; that is, crossing simply the Lake 1883
Shore; the detention, I suppose, would all depend on
the amount of trains the Lackawanna took over there.

Q. And if they were doing a large business too at
that time, why then the delay and obstruction would be
increased very seriously?

A. Would be increased seriously, yes, sir.

1884 *Cross examination, by Mr. Locke:*

Q. Would it simplify matters if one man had control of the three crossings, of all the crossings there?

A. I guess one man would have to control them any way.

Q. If one target man had the control, would it simplify matters?

A. That is the only way that the three crossings can be worked.

1885 Q. You have charge of the track at the Buffalo Creek crossing?

A. The Buffalo Creek crossing on the Lake Shore.

Q. The Buffalo, New York and Philadelphia crossing?

A. Yes, sir.

Q. Do you experience delays there?

A. Yes, sir, but we have full right of way there.

1886 Q. Now, if the sum total of this business to be performed by the Lackawanna road, and the Erie Railway should not exceed the present business at that point, the matters would not be greatly complicated, would they; assuming that the sum total of the business done by the Lackawanna Road and Erie Railway should not exceed the present Erie Railway business at that point, would the crossing be more difficult than it is at present?

A. Certainly.

1887 Q. After the Lackawanna road is built, if the Erie road has only half as much business as it has now, in your judgment, the crossing will be just as difficult as it is now?

A. Just as difficult as it is now with two crossings.

Q. Say after the Lackawanna crossing is built, the business of the Erie road can be cut in two, and still the Erie Railroad would be as much trouble as at present?

A. I think the Erie Railroad could do that business a great deal better than two roads could do it.

Q. Do you have charge of the handling of the freight 1888 at the Alabama street crossings?

A. Yes, sir.

Q. City freight?

A. Yes, sir.

Q. Do you have any delays there?

A. Yes, sir.

Q. Very serious ones?

A. Well, yes, sir ; we are considerably delayed there, we cannot do anything when we want to. 1889

Q. The Erie Railroad has never built any over-crossing there?

A. No, sir.

Q. You are very much delayed at the Buffalo, New York and Philadelphia crossing, at times?

A. No, sir, I don't say that, we have the full right of way there.

Q. So your trouble in this particular case is, that you have not the right of way? 1890

A. The business, there is more of it.

Q. Do you think there are more trains pass there than at the Alabama street crossing?

A. More trains.

Q. Pass this Sandusky street crossing, than the Alabama street crossing?

A. Yes, sir, there are.

Q. You think there are?

A. Yes, sir. 1891

Q. Do you know how many passenger trains run out of the Erie depot any day?

A. Not exactly, in the neighborhood of twenty-five or twenty-six.

Q. That is your best judgment?

A. Yes, sir.

Q. Do you know how many run out of the New York Central?

1892 A. No, sir.

Q. Then you don't know which crossing is used the most, the Alabama street or yours?

A. I know there is more freight passes over this crossing than there does over the other; I was not making the answer with reference to passenger trains.

Q. How long have you been the yard-master there?

A. Nearly a year, the general yard-master.

Q. Do you have charge of the yards down at the
1893 International Bridge?

A. No, sir.

Q. Who has charge down there?

A. Mr. Mosher.

Q. How much do you think that a double-track crossing would facilitate the business of the Erie, how much would it expedite the business of the Erie at that point?

A. It would do away with about probably one-third of the delays.

1894 Q. Of the present delays?

A. Yes, sir.

By Mr. Milburn: Q. To Erie business?

A. Yes, sir.

By Mr. Locke, resuming: Q. How long have you operated?

A. I mean a double-track crossing without a third crossing.

1895 Q. There never has been anything but a single-track crossing in there, up to the present time?

A. Up to the last two or three months there has been a crossing put in there, it was a single-track altogether before that.

Q. You never operated a double-track crossing as to now.

A. Not yet.

Q. You are just about to do it?

A. Yes, sir, we are ready to do it at any time we get 1896
it fixed.

Re-direct examination, by Mr. Milburn :

Q. You say that a double track there will decrease
your delays one-third?

A. Yes, sir.

Q. That is because it gives you more command of
the crossing?

A. Yes, sir.

Q. And when you have it with a train one way you
can use it with trains the other way?

A. Yes, sir.

Q. And that necessarily increases the delays to the
Lake Shore?

A. Yes, sir.

Q. Because when you have it in command that way
the other road will have to wait for you until you get
through?

A. Yes, sir.

Q. Your answer was purely with reference to your
own business?

A. Yes, sir.

Q. And not with reference to the fresh delays that
would be imposed on the Lake Shore business?

A. No reference to the Lake Shore business.

Re-cross examination, by Mr. Locke :

Q. Do you mean to say that you cannot cross the
track with two trains in opposite directions?

A. That is what I say.

Q. You would transact twice the business over that
crossing in five minutes—you would now?

A. Yes, sir.

Q. You could get two trains across there with one
target, while if you had one crossing you would have to
have two targets?

1897

1898

1899

1900 A. Yes, sir; it makes it about one-third.

Q. And in that way you could do one-third more business without delaying the Lake Shore any more?

A. We can have two trains going over one crossing in opposite directions, and they will hold the crossing longer than one train going in one direction; if we did not have a double track the Lake Shore would take the target before we would get there with another train.

Q. Do you know how long it takes you to go through
1901 there?

A. About five minutes a train, east-bound.

Q. How long with a train west-bound?

A. That depends upon how the yard at Hamburg street is.

Q. How long does it take your train to cross the Lake Shore tracks, a train of thirty cars?

A. It takes them about five minutes, thirty cars.

Q. That would be ten seconds to a car going about
1902 twenty feet, where do you count the five minutes from?

A. The time we strike the target until we get over with the thirty cars.

Q. You think that takes you five minutes?

A. Yes, sir.

Q. Are you pretty sure of that?

A. Yes, sir.

Q. Have you ever timed it?

A. I never timed it, but it is pretty accurate I guess;
1903 it will average that.

Q. How fast do you go?

A. Four to five or six miles an hour; about as fast as we can go with a train of thirty cars, less than that probably, sometimes; not as fast as a man walks.

Q. How fast is five miles an hour? How many feet a minute, have you any idea?

A. I would have to figure that.

Q. It is about ninety feet a minute?

A. Yes, sir.

1904

Q. So you think it takes you five minutes to get across there?

A. Yes, sir; I will stick to five minutes.

Q. How far is it across there, across the crossing?

A. I don't know; I couldn't say; they have got two or three tracks to cross there.

Q. It is not over forty feet?

A. Forty or fifty feet.

Q. Did you ever know of an interval of five minutes when the Lackawanna train could get across, if it happened to be on the spot?

1905

A. I am seldom around there when there is nothing doing.

Q. Five miles an hour would be five times ninety feet—one mile an hour would be about ninety feet a minute?

A. Four hundred and fifty feet a minute.

Q. Five miles an hour would be about four hundred and fifty feet a minute?

1906

A. Yes, sir; we don't go as fast as that.

Q. As fast as five miles an hour?

A. No.

Q. You would not come here and swear that you have not seen times in the course of your long experience, when a Lackawanna train would not have an opportunity to slip across there without interfering with the Lake Shore or Erie trains?

1907

A. No; I would not.

Q. There are a good many such instances down there when a Lackawanna train if ready could get across there?

A. Yes, sir; I think they could.

Re-direct examination, by Mr. Milburn:

Q. There would be more delays imposed by this

1908 Lackawanna crossing in view of its being a passenger line, if the same rules apply to it that apply to the Lake Shore trains, that you cannot take their train time, you would have to wait for them as you do for the Lake Shore trains?

A. Yes, sir; Lake Shore trains ought to have the right of way over freight trains.

Q. Do you think they could run a passenger line over there if they never got the right of way until you
1909 were both through using that crossing?

A. If they did not have the right of way they would have a good time going over there.

Q. With passenger trains especially?

Re-cross examination, by Mr. Locke:

Q. Would it benefit the Erie road materially to have this crossing moved one hundred and twenty feet to the south, would it materially benefit the Erie road? With
1910 you it would not make much difference whether the crossing was where it is located or where it is proposed to be altered?

A. No, I don't think it would make much material difference.

Q. That is, whether both crossings are considered as grade-crossings or over-crossings? Suppose they are both considered as over-crossings, would it make much difference with the Erie Railway?
1911

A. I guess it wouldn't make any, if we had all the room we wanted to work in.

By Com. Clark: Q. I believe you have stated that a considerable portion of the delay which you have experienced at this crossing is occasioned by the transaction of the transfer business between the two roads, the Erie and Lake Shore?

A. Yes, sir; considerable.

Q. Supposing that transfer and exchange business

between these two roads should be removed to some other point, and done wholly at some other point, what proportion of the delays would be removed by reason of the removal of that business? 1912

A. That is a pretty difficult question to answer; there is a great deal of work to be put aside if that thing is taken out.

Q. Can you give us a fair approximation?

A. I don't think a man could answer that with any sense of accuracy, without taking the figures. 1913

Q. Would you have any more delay if it was removed, than you would if this crossing were out in Cheektowaga?

A. We wouldn't have as much delay if nothing but through business was done there; it would be materially reduced.

Q. How much of the time is taken up by the transfer, as to the delay which is occasioned, by this transfer and exchange business? 1914

A. I should judge there was about one-fourth; it would reduce it about one-fourth.

Q. It would take away the transfer and exchange business and reduce delays one-fourth?

A. Yes, sir.

By Mr. Milburn, resuming: Q. Do you mean take away the yard business?

A. That would take away the yard business; the transfer and exchange business would take away their yard business. 1915

Q. Suppose they should take away all these tracks, take the tracks away?

A. Take this track here that we receive freight on at this end of the track, it is no material detention to us.

Q. Take away all this transfer and exchange business, take away all this switching of the Lake Shore in this yard, and put it somewhere else, at East Buffalo,

1916 say, and then, with merely through trains of the Erie and Lake Shore running over there, how much would the delay be diminished?

A. I couldn't answer for the Lake Shore business at all. All I could answer for would be what we delivered there. There is a good deal of freight taken out of the trains that is distributed on their town tracks, that I don't know anything about, any more than I know they are handling it.

1917 Q. You observed the use of that crossing by them and by you, and the only thing is any approximation that you could give as a man acquainted with that locality?

A. I would not say it would reduce it much more than one-fourth in our crossings alone; it would reduce it one-fourth; it would make some extra difference in the Lake Shore business that I would not give any opinion upon.

1918 By Com. Clark: Q. Have you formed any judgment as to what place could be adopted to relieve the difficulties that you have spoken of here as to the re-arranging of tracks, have you ever thought about it?

A. I have not given it a thought, sir.

By Mr. Milburn: Q. That is not within your jurisdiction?

A. No, sir.

1919

WILLIAM A. HAVEN, recalled by the petitioners, and examined by Mr. Milburn, testified as follows:

Q. There has been a good deal of talk here about other crossings; you are pretty well acquainted with the crossings in the city?

A. Yes, sir; the general shape of them.

Q. Are there any other crossings in this city such as the Lackawanna proposed at that point?

A. I don't know of any.

Q. Is there another grade-crossing that you know of 1920 that is through a freight yard where switching is going on, and the business that is going on at a point like this?

A. I don't know of any.

Q. Take the crossing at Alabama street, what is that crossing?

A. It is the crossing of the two main tracks of the Erie by the two main tracks of the Central, and just west of the crossing of the Erie, there is one track which runs into the freight-house, in which trains pass but one 1921 way only.

Q. That is how many tracks just cross each other?

A. Two tracks across two tracks.

Q. And these two tracks of the Erie are, with the exception of its city business at the Louisiana street freight-house, they are purely its passenger tracks?

A. Yes, sir.

Q. No freight runs over these tracks except that freight to the Louisiana street freight-house? 1922

A. No, sir.

Q. What sort of a crossing is that?

A. It is a diagonal crossing at an angle of about twenty-six degrees.

Q. Is that a very different crossing as compared with this right angle?

A. Entirely different.

Q. In other words there comes in there this question that the wheel does not leave the rail? 1923

A. The wheel has a continuous bearing.

Q. It does not leave the support of the rail?

A. It does not leave the support of the rail.

Q. I think the other crossing that has been mentioned is the crossing of the Philadelphia road—that is a crossing of what?

A. A crossing of one track of the Philadelphia road, their main track, by the two tracks, three tracks, of the

1924 Erie; that is the two main tracks and the city tracks, that is not used but very little; I don't know as it is ever used; I think it is very little; the north track of the Erie; it is very little used on account of the target and signal-house; it is too close.

Q. What is the business, if you can state generally, that is done over that crossing by the Philadelphia Road, as compared with the business done at this crossing?

1925 A. I haven't any figures at all, so I don't know what freight they do, but it is comparatively small as compared with the Lake Shore road, or compared with the Erie at that point.

Q. Where is there another grade-crossing?

A. There is a crossing at the Buffalo Creek road, very nearly the same place.

Q. By what?

A. By the Erie.

1926 Q. That is a single track?

A. Yes, sir, that is a single track on which the same track, the Buffalo Creek, which runs up to the New York Central road, which is so seldom used that this morning for half an hour there was a train standing on the main track.

Q. That is the point where the Erie forms its connection with the Buffalo Creek road to get to the lake;

1927 A. The Erie forms its connection eastward of that track.

Q. Is there any other crossing in the city of Buffalo that calls for any mention?

A. The crossing of the Lake Shore by the Buffalo Creek Railroad.

Q. That is a crossing of how many tracks of the Lake Shore?

A. Two tracks.

Q. By how many of the Buffalo Creek?

A. One track. 1928

Q. And where; away from any yard or anything?

A. Out on the Tift farm.

Q. That is where nothing but through trains are?

A. Nothing but the through trains on the Lake Shore, and the business of the Buffalo Creek road.

Q. At this Alabama street crossing, is there any making up or the distribution of trains over that crossing, or any switching done?

A. I don't think there is any switching done here, 1929 except, as I said before, they sometimes put a train from our main track into our Louisiana street freight-house.

Q. Is there any other crossing that you call to mind?

A. I call to mind the crossings at the International Bridge?

Q. The Erie Railway does cross the freight yard of the Central where business is done that corresponds with the business that is done here, is it not? 1930

A. At what point?

Q. Does it not cross?

A. They cross over the Central.

Q. They do cross the Central?

A. The Erie crosses the Central.

Q. At a point where business is done similar in its character to the business done at the crossing in question here? 1931

A. Yes, sir.

Q. What sort of a crossing is that at that point?

A. That is an over-crossing.

Q. Is that the only crossing that you know of in the city of Buffalo that corresponds with the crossing proposed by the Lackawanna?

A. That is the only one I have in mind: I don't know of any other.

1932 Q. What about the crossings of the International Bridge?

A. The Erie International line crosses with one track—a single track of the Central Railroad.

Q. The Niagara Falls branch?

A. Yes, sir; the Niagara Falls branch; that is the track on which they take their freight from East Buffalo to Tonawanda, and to Niagara Falls, and also it crosses a double track of the Central Railroad at a point

1933 where all the business on the line between Buffalo and Niagara Falls is done—Lockport.

Q. Is there any grade-crossing in the city of Buffalo that has the same characteristics, that is not a simple crossing as compared with this one proposed here, in this case?

A. I don't think of any, sir; I don't know of any.

Cross examination, by Mr. Locke:

1934 Q. The Buffalo, New York and Philadelphia crosses you almost at a right angle?

A. At an angle of about forty-five degrees.

Q. All the business that comes in on the Erie road that goes over this crossing passes that point of intersection, does it not?

A. Yes, sir.

Q. All the passenger business in addition that comes in passes that point of intersection?

1935 A. Yes, sir.

Q. And all that goes out of Buffalo on the Lake Shore road or from the passenger depot, goes out past this Buffalo, New York and Philadelphia road, does it not?

A. All the transfer business of this crossing.

Q. It goes out over that Philadelphia crossing?

A. Yes, sir.

Q. Are you acquainted with the location of the 1936 Philadelphia yards?

A. Yes, sir.

Q. You know that they have a yard at Babcock street?

A. They have a yard out at Babcock street.

Q. It is on the north half of lot twenty-seven?

A. Yes, sir.

Q. And all of thirty-two?

A. Yes, sir; they have no yards across that way; 1937 they make up their trains at that end. (Witness indicates on map.)

Q. Don't you know that they have an Emslie street yard on the west side of the Erie road?

A. They have just made one.

Q. Haven't they had one there since the road was constructed?

A. I think not?

Q. Don't you know that they have had a yard consisting of four tracks, extending as far as Bond street, ever since you have been in Buffalo? 1938

A. Yes, sir, I think they have had a yard there.

Q. Have they delivered all their local freight at the Emslie street yard, as it is termed?

A. I don't know what they have done down there; it is out of my line entirely.

Q. How many times a day will you say, in your judgment, a Buffalo, New York and Philadelphia engine passes the Erie tracks? 1939

A. That I couldn't make you a guess upon.

Q. Don't they pass you one hundred and fifty times every day?

A. I think not; I don't know; I haven't any idea.

Q. You have not any idea?

A. No, sir.

1940 Q. Can you tell how many trains you have that pass the Buffalo, New York and Philadelphia crossing?

A. No, sir.

Q. You have heard how many passenger trains you have?

A. I don't know anything about it.

Q. You take the Alabama street crossing—that is made in contracted quarters; you are crowded for room
1941 at Alabama street, aren't you?

A. Not particularly so.

Q. You think you have all the room that you want on Alabama street?

A. No, sir.

Q. Haven't you tried to buy lands there within a year?

A. Not at that crossing—not west of it.

1942 Q. Have you east of it, immediately in this vicinity?

A. Yes, sir, I think we have.

Q. And for the purpose of getting more facilities of approaching that crossing?

A. Not for approaching that crossing, not at all; it don't have anything to do with that crossing.

Q. Don't you know, sir, that more trains by thirty per cent. pass the Alabama street crossing in every twenty-four hours than pass the Sandusky street cross-
- 1943 ing?

A. I don't know anything about it, sir.

Q. Will you state which crossing passed the most trains, sir.

A. No, sir, I cannot.

By Com. Clarke: Q. When was the Erie road constructed across the Lake Shore, at the point in question?

A. I surely don't know, sir.

JERRY GORMAN, sworn for petitioners and examined 1944
by Mr. Milburn, testified as follows :

Q. You live in Buffalo ?

A. Yes, sir.

Q. Were you employed about the 9th of July to
count the cars, the Erie cars, crossing the Lake Shore
crossing at Sandusky street ?

A. Yes, sir.

Q. And did you keep a faithful account of them ?

1945

A. Yes, sir.

Q. And put them down ?

A. Yes, sir.

Q. Put the figures down ?

A. Yes, sir.

Q. Is that one page of yours (presents book to wit-
ness) ?

A. Yes, sir.

Q. Give the dates and figures ?

1946

A. From July 9th to July 10th, went east 177, went
west 173, that is, including engines too ; July 10th, 7
P. M., to July 11th, 7 A. M., went east 85, went west 94 ;
July 11th, 7 P. M., to July 12th, 7 A. M., went east 139,
went west 130 ; July 12th, 7 P. M., to July 13th, 7 A. M.,
went east 275, went west 155 ; July 13th, 7 P. M., to July
14th, 7 A. M., went east 181, went west 177 ; July 14th, 7
P. M., to July 15th, 7 A. M., went east 198, went west 118 ;
from July 15th, 7 P. M., to July 16th, 7 A. M., went east 1947
187, went west 238 ; July 16th, 7 P. M., to July 17th, 7
A. M., went east 138, went west 174 ; July 17th, 7 P. M.,
to July 18th, 7 A. M., went east 31, went west 92 ; July
18th, 7 P. M., to July 19th, 7 A. M., went east 99, went
west 178.

Cross examination, by Mr. Locke :

Q. Did you keep track of these ?

A. Yes, sir.

1948 Q. Count the cars?

A. Yes, sir, with the exception of Sunday night, and then the man that was changing with me staid between ten and eleven o'clock.

Q. Who set you about it?

A. Mr. Tracy.

By Mr. Milburn: It was at my request that it was done.

1949 Q. Did these cars go across the crossing there in trains?

A. No, sir, not any trains, there are some of these that we took notes of that was delivered on the Hart and Diamond tracks.

Q. So you don't know how many went across?

A. No, sir, we didn't keep track of those that went across the Lake Shore.

1950 Q. When one went on the Diamond track and went back you counted that east and west?

A. Yes, sir.

Q. And when it went on the Hart track you counted it east and west?

A. Yes, sir.

Q. How many times did they pull the same cars back and forth there?

A. That I cannot say.

1951 *Re-direct examination*, by Mr. Milburn:

Q. All the cars that you mentioned as being pulled on the Diamond and Hart tracks were all pulled over the crossing?

A. Yes, sir, every one of them.

Q. They could not get on to these tracks without going over this crossing?

A. No, sir.

Q. Every car that you gave crossed this crossing?

A. Yes, sir.

Q. In what shape are those cars? 1952

A. Sometimes they crossed twenty, thirty and forty in a lot, and then two and three.

By Mr. Locke: Q. You did not take the number of each car?

A. No, sir.

EDWARD CLARK, sworn for the petitioners, and examined by Mr. Milburn, testified as follows: 1953

Q. At the time you will state here, you were down there counting the cars crossing the Lake Shore crossing?

A. Yes, sir.

Q. You counted them faithfully?

A. Yes, sir.

Q. And put them down in the book?

A. Yes, sir.

Q. July 10th, 7 A. M. to 7 P. M., how many cars went west? 1954

A. 338, east 185.

Q. July 11th, 7 A. M. to 7 P. M., went west?

A. 237, east 324; July 12th, 7 A. M. to 7 P. M., went west 310, east 316.

Q. July 13th, 7 A. M. to 7 P. M., how many went west?

A. 297, east 252.

Q. July 14th, 7 A. M. to 7 P. M., how many went west?

A. Went west 213, east 297.

Q. July 15th, 7 A. M. to 7 P. M., went west, how many? 1955

A. 345, east 325.

Q. July 16th, 7 A. M. to 7 P. M.?

A. Went west 207, east 332.

Q. July 17th, 7 A. M. to 7 P. M., went west how many?

A. 170, east 91.

Q. July 18th, 7 A. M. to 7 P. M.?

A. Went west 118, east 183.

Q. Those are the number of cars and engines that

1956 crossed east and west, the Erie crossing of the Lake Shore?

A. And Hart and Diamond tracks, yes, sir.

Q. In what form did they go over, in trains?

A. Yes, sir, in trains of fifty-four, fifty-six and forty-five cars, and ten cars, and three cars, and so on.

By Mr. McAlpine: Q. These were the cars and engines?

A. Yes, sir.

1957 Q. You counted an engine as a car?

A. Yes, sir.

Cross examination, by Mr. Locke:

Q. Were they switching back and forth a great deal, those days?

A. Yes, sir, switching over the crossing.

Q. You counted all those?

A. Yes, sir.

1958 Q. Every time a car went across, no matter how many times?

A. Yes, sir.

Q. Back and forth?

A. Yes, sir.

Q. Do you know how many times the same car went across?

A. I never noticed that.

1959 Q. You did not notice that at all?

A. No, sir.

Q. Was the engineer pretty active any of those days?

A. I could not tell you.

Q. Who sent you down?

A. Mr. Tracy.

Q. Did he say they would go across there that day?

A. Yes, sir.

Q. Did he say a good many would go across?

A. He didn't say how many.

Q. Was the same switch engine in use that day all 1960 day?

A. There were different engines there.

Q. How many?

A. I couldn't say.

Q. Any that you ever saw before; or did they have some fresh ones, did you see any unfamiliar engines there?

A. No, I did not.

Q. They did the work with these that they had in 1961 the yard?

A. Yes, sir.

By Mr. McAlpine: Q. What intervals of time did these trains pass at—did they go as often as once in five minutes?

A. Yes, sir; sometimes oftener.

Q. But as frequent as once in five minutes?

A. Yes, sir.

Q. And then sometimes less frequent? 1962

A. Yes, sir.

Q. How long a time between the passing of one set of cars and another set of cars?

A. I couldn't tell you.

By Mr. Locke, resuming: Q. About how long?

A. I couldn't say.

Q. Half an hour?

A. Sometimes half an hour, and other times an hour and ten minutes or five minutes. 1963

Q. Two hours?

A. I couldn't say that, I didn't have any watch?

CHARLES WALRATH, sworn for the petitioners, and examined by Mr. McMillan, testified as follows:

Q. Do you reside in Buffalo?

A. Yes, sir.

1964 A. You are in the employ of the Lake Shore and Michigan Southern Railway Company, are you not?

A. Yes, sir.

Q. And have been for how many years?

A. Nineteen years.

Q. At the present time you are the yard-master of that company at the transfer-house?

A. Yes, sir, I am the general yard-master of the Buffalo yards.

1965 Q. You have been out of the city for several days past, have you not?

A. Yes, sir.

Presents Exhibit No. 3 to witness.

Q. Does that give a correct description of the yard at that point; those two dark lines represent the proposed crossing of the Lackawanna Company?

A. Yes, sir, as near as I can see now from the description of it.

1966 Q. You may state what your special duties, as yard-master, are at that point; what you have in charge, so that the commissioners may understand it?

A. I have a general charge over the business, and over the men at that point.

Q. And you regulate the making up of trains, and the starting of trains, that is all done under your direction?

1967 A. Yes, sir.

Q. You make up your trains on the tracks in the northerly side of the yard, do you?

A. We make them up on the northerly side of the yard on two tracks when we have room there, when we have not room we have to take them on the tracks adjoining, south of the main track.

Q. Are any of these tracks sufficient in length to accommodate more than one freight train?

A. Well, number one track we might put on more

than one freight train, but we could not put on enough 1968 more to make it an object.

Q. How many cars could you put on there?

A. Forty-seven.

Q. That is the limit of that track?

A. Yes, sir; and cut the crossing.

Q. In speaking about those crossings you cut, how many crossings are there; the principal one you have to cut to let the general traffic pass through?

A. The first crossing we have to cut is Elk street 1969 crossing, that is trains going east, and of course we commence at the back end of the train and cut Elk street first and Fulton street next and Scott street next, sometimes we are not obliged to cut Scott street, and sometimes we are, depending upon the length of the trains.

Q. What is the capacity about of the next track going southerly in the yard?

A. About forty-three cars.

Q. You may go on and give about the capacity of 1970 each of those tracks, commencing towards the bottom of the map; the first track is called Ryan's track?

A. Yes, sir.

Q. The next is Strong's track?

A. Yes, sir.

Q. The next one is the main track?

A. Yes, sir.

Q. The next one is number one?

A. Yes, sir.

Q. And so on through, they are numbered continuously up to number eight?

A. Yes, sir.

Q. You have given us the capacity of Ryan's track and of Strong's track; what is about the capacity of number one?

A. I gave you the capacity of number one and two,

1972 and I have not given you the capacity of Ryan's and Strong's.

Q. What is the capacity of number three?

A. Well, that will hold about thirty-eight cars.

Q. Number four?

A. Number four will hold about thirty-three.

Q. Five?

A. Number five will hold about thirty.

Q. Number six?

1973 A. Number six will hold about twenty-seven.

Q. Number seven?

A. Number seven about twenty-four.

Q. Number eight is a dead track?

A. Number eight is a dead track, and will hold about eight or ten track.

By Com. McAlpine: Q. You mean to the extremity of the yard?

1974 A. Yes, sir; I mean from one extremity of the yard to the other. At the lower part of the yard of course those tracks come in the same position.

By Mr. McMillan: Q. They switch out at the other end?

A. Yes, sir.

By Com. McAlpine: Q. You call them through tracks having a switch at each end of the yard, is that it?

A. No, we don't call them through tracks.

1975 By Com. Clark: Q. Do I understand you to say that the side tracks connect with the main tracks at the other end?

A. Yes, sir; in regard to the capacity of those tracks I would state that I did, at one time, know just the amount of cars that they would store. I am sure about number one, two and three.

By Mr. McMillan, resuming: Q. That is an estimate from your experience in that yard?

A. Yes, sir; I am quite sure about numbers one, two

and three, and the balance I am not far out of the way, 1976
may be one or two cars out of the way.

Q. All of those tracks connect with the main track
by switches at the north end, all the tracks in the yard?

A. Yes, sir.

Q. Is there sufficient room between the transfer-
house and the proposed crossing of the Delaware and
Lackawanna to do the necessary switching and handling
of cars for the purpose of transferring and making up of
trains between that point and the transfer-house? 1977

A. No, sir, there is not.

Q. That switching can not be done without crossing
over that point?

A. No, sir; we would have to piece up our trains,
and filling the Hart track we generally take twenty-five
to thirty-five cars.

Q. That is the upper track near the transfer-house?

A. Yes, sir; if we have less we take less, but if we
have enough to fill a track we generally take enough to 1978
fill that track.

Q. Can you give the capacity, commencing with the
Hart track?

A. The Hart track will hold thirty-eight cars.

Q. Now the Diamond track?

A. That is the next track of ours, that will hold about
thirty cars.

Q. That is a stub-track at the north end?

A. Yes, sir; I will say about thirty-three cars, that
would be about the capacity of that. 1979

Q. About what is the capacity of the platform track?

A. That is the one I gave you.

Q. Take what is called the house track?

A. The house track will hold about twenty-one or
two cars in the house, I think, and six outside; about
twenty-seven cars.

1980 Q. A freight train coming in from the west makes a stop at what point before reaching the target?

A. It makes a stop at the cross-over west of the Erie crossing.

Q. Now, having made a stop there, it waits for what?

A. It waits first for the target, the target is in possession of the Lake Shore, unless the Erie is using it, if the Erie is using the crossing it waits for the target.

Q. If the engineer has received the target what then
1981 does he wait for?

A. For a signal from the switchman.

Q. Why is it essential, and why is it that the order is given that then after the engineer has been given the target that he must wait for a signal from the switchman to come on; what are the duties after the target has been given?

A. After the target has been given the duties of the switchman to find a clear track for east-bound trains to
1982 come in on, and after finding that clear track he has to walk down over the Erie crossing in the yard to see whether the track is clear.

Q. He has to come there and make a personal inspection?

A. Yes, sir.

Q. Then he signals the train to come down?

A. Yes, sir.

Q. In stormy and foggy weather is not the delay in
1983 getting into the yards incident to the inspection to be made quite considerable?

A. Yes, sir; actually more or as much as it would be in the delay in getting the target, or rather crossing the track.

Q. It is not an uncommon thing, is it, for several trains, two or three or four, to be delayed in this yard about getting out at the same time?

A. Yes, sir.

Q. That is, for instance, a train that is made up of 1984 three sections, if the first section is delayed the others are delayed?

A. They frequently hold them three miles away at East Buffalo.

Q. Then the operating of this yard is somewhat interfered with by passenger traffic?

A. Yes, sir.

Q. You do not allow any freight cars to leave this yard unless they can reach Hamburg, a station ten miles 1985 distant, before the passenger train crosses that point?

A. Before the passenger train crosses Buffalo Creek.

Q. How great delays do you sometimes experience in this yard by reason of the occupancy of the crossing by the Erie Company in doing the general business, how great a delay in time, how long at one time continuously in minutes or hours, or anyway that you may know it have you known it?

A. I have timed it sometimes, we have been delayed 1986 there in getting our west-bound trains out, twenty or twenty-five minutes.

Q. Now, then you have a train made up we will say on number one, filling up that track, how many cars do you generally calculate for a train of freight going west?

A. Thirty-five is the usual number.

Q. You have thirty-five cars made up into a train, loaded cars, ready to go west, and the engineer does not receive the target, what is necessary then, what is necessary 1987 to do in regard to the cutting of trains?

A. In order to see the target, he has got to stop, and if he stops, he has to cut all the crossings in the yard.

Q. Tell us why these crossings must be cut?

A. I believe there is a city ordinance that obliges us to cut them.

Q. You are not allowed by the city ordinance to let

1988 a train stand across Abbott road, Elk street, Fulton street, nor Scott street ?

A. The Abbott road.

Q. It comes into Elk street at that point, that is one of the thoroughfares leading into the city ?

A. Yes, sir.

Q. How long a time does it take to cut those crossings, and to make up the train again ?

A. To cut the crossings and then——

1989 Q. Get your trains ready to start again ?

A. It will take, on an average, to cut the crossings and couple them again, making the stop, you understand, if you don't cut the crossing you have got to make a stop and you have got to start again, you have got to cut the crossings and couple them again, it will take, on an average, ten minutes, that is in addition to the usual stop for the target.

1990 Q. And the engineer is required to have his train made up before he whistles for the target, he does not whistle for the target before he gets his trains made up.

A. I wish to make an explanation ; the greater quantity of trains are made up at East Buffalo, and supposing we start a train at East Buffalo, and they come around and put the switches at the lower end of the yard and come up and ask for the target, and if they do not get it they have got to start the train and cut those crossings.

1991 Q. There is no other means of getting these freight trains that come from East Buffalo through, excepting at that yard, on this main track ?

A. No, sir, we take them through the main track, we let them go through the main track, provided there is no passenger train due from the west, if there is a passenger train due from the west, we let them go through number one or two, or whatever track it is.

By Com. Clark: Q. Your detention depends upon

the length of time the target is being used for another 1992 train.

Mr. McMillan: He speaks of this detention, that is, if they stop for an instant of time that the detention to cut those crossings and couple them again, will amount to about ten minutes.

Q. Let us understand that, Mr. Walrath, if for instance, the engineer comes in here with his train from East Buffalo, and don't get the target, he is obliged to stop?

1993

A. Yes, sir.

Q. That stop makes it necessary for him to cut the streets?

A. -Yes, sir.

Q. Do you mean to be understood it takes him ten minutes to have the streets cut and coupled up again and get ready to start?

A. Yes, sir.

Q. If the crossing there is occupied ten minutes by 1994 the Erie, the stop would be in the matter of twenty minutes?

A. Yes, sir.

By Com. McAlpine: I did not understand him before to say that the ten minutes would be added, the ten minutes loss of time in cutting the train was to be added to the delay; if he had got the target when he first came along, he would not be obliged to stop, but on account 1995 of his not getting that target, he is obliged to stop.

Q. What is the ordinance as to the time you have to stop?

A. Five minutes.

Q. I understood you to say this morning, if they stopped, they were not allowed to stop there?

A. We are allowed five minutes, but on account of there being so much travel there, on Elk street especially, they have given orders to all train and yard-men,

1996 the moment they stop, if they cannot get the target for any other obstruction, to cut that crossing immediately.

Q. Then the custom is, if you stop on those crossings, to cut them?

A. To cut the Elk street crossing; it is not the custom to cut the other two crossings, unless there is a long stop.

Q. What would be the effect if you were obliged to do your switching the other side of the Delaware and
1997 Lackawanna track at that point, taking into consideration the grade at that point?

A. Well, in one place it would affect us taking our west-bound and transfer, we could not pull the west-bound from the transfer-house without pulling over that crossing and up to the bridge; in the second place, it would prevent us delivering our freight to the Erie road on the Hart track, we would have to pull over that crossing; and in the third place, it would delay us in
1998 getting our west-bound trains out and east-bound trains in; and there would be detention here in receiving from the Erie road on account of their getting the track that we received from.

Q. What do you say as to the necessity of extra power to handle your freight-cars there, in the event you had to cross this track in order to start your trains and do your switching; you may explain to the commissioners the extra power that is necessary to start a train
1999 across a crossing?

A. I think it would take an extra engine to do that.

Q. Explain how the necessity of having that engine, what would be the occasion of it?

A. The extra engine would be required on account of the additional delays that would be experienced in having another crossing there; we have one now, and if we should have another one, the additional delay would cause an extra engine; of course I am not an engineer,

but I have an idea that if there was another crossing 2000 there beyond the Erie crossing we would be obliged to put a pusher on our west-bound train to get them out of the yard, still that is only my idea.

Q. Tell us why you think so?

A. Because we have to do that now when the tracks are bad, and I think on account of this crossing——

Q. Do you mean it is more difficult to draw a train over a crossing than it is upon a level track?

A. Yes, sir; that is the sum and substance of it. 2001

Q. You think that the wheels drop down into the spaces made by the crossing?

A. Yes, sir.

Q. And for that reason, sometimes now when your track is bad, you use a pusher to get them over?

A. Yes, sir.

Q. If you had two crossings you think it would necessitate the use of a pusher all the time?

A. Yes, sir; I think so. 2002

By Com. McAlpine: Q. Is not that difficulty enhanced by the trains moving southerly by the twenty-five feet grade?

A. Yes, sir; I think that should be taken into consideration.

By Com. McAlpine: Q. If all the transfer business between the Lake Shore and the Erie was wholly removed from this Sandusky street crossing and done at 2003 some other remote place, how much of the present delay at this place would be removed? I will further add in explanation, that if all the tracks in this yard were removed and all on this side—counsel indicates on map—so that no business could be done there, and it was simply a double track of the Erie with its business, and a double track of the Lake Shore with its business, how much of all this delay that now ensues would be removed?

A. You mean the delay to our trains?

2004 By Com. McAlpine: Q. I will put a second question also; in that case would the delays be the same as they would be at any other crossing where an equal and similar amount of business was done by two roads?

A. You wish to know if the transfer business——

By Com. McAlpine: Q. Taking away from here entirely and it was merely the business passing that point?

By Mr. McMillan: Q. Taking away all the switching and transferring that is done here; if that is taken away
2005 how much will it reduce the delay to the business of the railroad company, of the Lake Shore Company; they would all be through trains as far as this point would be concerned?

By Com. McAlpine: Q. They would be like any other crossing, in any other place, where an equal and similar amount of business was done?

A. It probably would reduce it about one-fourth, because then we would of course expect a double track
2006 through there; we had a double track there.

By Com. McAlpine: Q. Then any other crossing at those two roads, or any other two roads, doing an equal and similar amount of business would produce as much delay as would be done here, if all the transfer business was taken away from this place?

By Mr. McMillan: Q. Do you know of any reason why there would be any more delay if we only had the
2007 crossing there of the two main lines; why there would be any more delay than there would be at any other crossing of similar lines; is there anything peculiar here why there should be any more delay here; if all this transfer was taken away than there would be at that point; is it not similar to any other similar crossing doing the same amount of work; if all this transfer business was taken away and sent to East Buffalo or Black Rock?

A. Certainly it would be similar to any other crossing.

Q. Similar to any other crossing just like it under 2008 the same circumstances, with a double track road?

A. Yes, sir.

Q. Do you mean to be understood, that the delay to the freight and passenger business on the Lake Shore road, is only one-fourth more by reason of all the transfer business and switching and shifting of trains at this point, than what it would be if it was not there; that is that the delay is only enhanced one-quarter more than the ordinary crossing would be of a double-track road, 2009 by reason of all the work that is done in this yard?

A. I don't understand the question.

Q. Suppose this was a crossing out on the road, out five miles, how much more would the delay be at this yard, just doing the business that you are, than the delay out at that crossing was, five miles from here with only those four tracks; how much greater will the delay be here in doing all the business just as we do it—how much greater will it be here than out five miles, having simply 2010 that crossing there?

A. If the crossing was five miles out of the yard, it would not interfere at all with our business here any more than ordinarily at crossings.

Q. Can you give us a comparison as to how much greater the delay at this point would be with the business with the road than what it would be at a similar crossing to that outside of the limits of the yard five miles?

A. I don't see as it would interfere with my business 2011 at all in the yard.

By Mr. Clark: Q. What proportion of the delay caused at this point is caused by the shifting of cars and the transfer business of the two roads, of all the delays that have been spoken of here?

A. By the shifting of the cars you mean——

By Mr. Clark: Q. Switching the cars back and forth,

2012 and doing all the switching and transfer business of the two roads?

A. Delay to what?

By Mr. Clark: Q. To your business.

A. To our trains?

Mr. Clark: Q. Yes, of course.

Mr. McAlpine: Let me make a suggestion; suppose the Erie Road, following the example of the Delaware, Lackawanna and Western, should conclude to make two
2013 lines, starting south of the present crossing, crossing the Lake Shore near the bridge and swinging in below that track, and they did all their business through this line instead of carrying it in this way, all their business that went through by this line instead of the other, and left this line merely to be used for the transfer of business between the Erie and the Lake Shore by means of these transfer-tracks and yard tracks?

A. You mean the Lake Shore business you take out.
2014 Mr. McAlpine: Yes, sir.

A. Then what is your question?

Q. Mr. McAlpine: Q. If you take out all the Lake Shore business by this line and pass it around by an independent line, and take out all the Erie through business and pass that around by an independent line, what proportion of all the delay would take place here on the remainder of the business?

A. You still mean to have this crossing here for the
2015 purpose of doing our transfer business?

Mr. McAlpine: Yes.

A. Well, I don't know as I will be able to give a very close estimate of that.

Com. McAlpine: Q. Suppose all those tracks were taken up at this place except the through tracks of the two roads, the main tracks, and that business was all transferred, I will say, on the Tiffit farm; you should move all your yard, all this business onto the Tiffit farm;

now then, how much would remain of those delays at 2016 this particular crossing, what proportion?

A. Then it would be merely the delays to our through trains, our freight and passenger trains?

Q. Yes.

A. I don't think I will be able to make an estimate on it.

By Mr. McMillan, resuming: Q. Do you think it would be possible to do the business you are now carrying on in this yard if there was a grade-crossing at that 2017 point by the Lackawanna Road, would it be possible to do you business at that yard?

A. Certainly it would depend on the amount of business they did.

Q. We go on the assumption that they have projected a double-track road there, and that a new company projecting a double-track road, that it is a sort of an index that they expect to do a large business. Of course if they did no business it would not affect you 2018 any, any more than simply the extra crossings; but taking into consideration the fact that they expect to do a fair business, not only of freight but of passenger, would it be possible for you to carry on your business at that yard?

A. I don't think it would.

Q. Is it not true that nine-tenths of the delay in the handling of your trains in getting out your freight, is incident to the fact that you have this system of transfers 2019 here with the Erie and the Erie crossing, incident to the location of this yard and all of its surroundings; that it would be exceedingly detrimental to run that track through the yard for that reason, that it would intensify those delays?

A. I do not think that nine-tenths of the delays come from that; that is quite a large proportion.

Q. What proportion would you say if not nine-tenths?

2020 A. You say that nine-tenths of the delay caused by the Erie——

Q. Nine-tenths of the delay to the business is caused by the shifting and transferring of cars in this yard, and also by the use of this crossing for making those transfers?

A. That nine-tenths of the delay is caused by our shifting those cars?

2021 Q. Using those crossings in the way you did, that nine-tenths of the delay is caused by the business done in the yard?

A. As I understand you, it is that the Erie crossing causes nine-tenths of the delay; did you mean to state that, that the Erie crossing caused nine-tenths of the delays in this yard?

2022 Q. Take that into consideration with the delay caused by the use of that crossing and the shifting of cars in making up your trains and getting them ready to start, what does your delay arise from, if it does not arise from the delay at that crossing and this shifting back and forth and failure to get the target?

A. I don't think it would be nine-tenths.

Q. About what proportion would you say?

A. I should say seven-tenths.

Cross examination, by Mr. Locke :

2023 Q. Does the additional crossing that the Erie are now putting in tend to increase your troubles down there?

A. I couldn't say, because that crossing has not been used.

Q. What its effect would be you are not able to state?

A. No, sir; because it is not in use yet.

Q. It would make more friction wouldn't it, in your track?

A. Yes, sir.

2024

Q. Just double the friction ?

A. Double the friction.

Q. Do you regard that as a very serious objection ?

A. It is an objection ; yes, sir ; I regard it as an objection.

Q. A serious one ?

A. Yes ; I should regard it as a serious objection in case of bad tracks ; crossings are apt to get blocked with snow more than on the main track.

2025

- By Com. Clarke: Q. How long did you state you have been engaged at this point ?

A. I have been engaged at this point three years ; nineteen years in their employ.

Q. During the time you have been engaged, have the frogs on the crossing of the Erie and Lake Shore been changed and renewed ?

A. Yes, sir ; several times.

Q. Were they broken ?

2026

A. Broken and worn out, usually broken.

Q. Can you state how many times ?

A. No, sir ; I couldn't state how many times.

By Com. McAlpine: Q. How long does the best style of frog last at this particular point ?

A. Well, I couldn't state the length of time ; I only state from the times that I have to suspend business ; you may say partly, on account of putting in those frogs.

2027

Q. Do you put in new frogs once in three months ?

A. On the same corner ?

Q. Yes ?

A. I think a frog would last more than three months.

Q. You are speaking of this Erie crossing now ?

A. Yes, sir ; but we have so many of them that there are a good many put in.

Q. They do not always fail at the same time ?

A. No, sir ; we had a crossing put in last Sunday ;

2028 no, a week ago last Sunday, and one week before that, but that was a new crossing.

Q. In a train of thirty-five cars on No. 1, how many cuts must be made at Elk street with the switch below?

A. We can get thirty cars in by cutting two crossings; by cutting Elk street and Fulton, but if the train was not stopped at the upper end of the yard where it ought to be, if they run down too far they might be obliged to cut the crossing below.

2029 Q. They are forced to make two cuts?

A. Yes, sir.

Q. Always?

A. Always.

Q. If they don't go far enough south they will be obliged to make another cut?

A. Yes, sir; if they go too far north.

2030 Q. In giving the number of cars that would stand on these various tracks, Nos. 1, 2, 3, 4, 5, 6 and 7, will you state how many you think could stand on the same tracks, stating each one separately, up to Elk street, without crossing Elk street?

A. I think we could get about eighteen cars, eighteen to twenty cars above Elk street on No. 1.

Q. Now say on No. 7?

2031 A. On No. 7 I don't think we can get over seven cars, and clear the switches at the other end of the yard.

Q. And the intermediate numbers would be in that proportion?

A. Yes, sir.

Q. When you speak of the capacity of these several tracks for holding cars, you mean also the capacity to hold the engine?

A. No, sir; I do not; the car capacity that I have given of these several tracks is for cars alone and does not include the engine with it.

Q. An engine and tender would take up the space of 2032
two cars ?

A. Yes, sir ; about two cars.

Q. You omitted to state which of those tracks on
the east side of the transfer platform were stub-tracks, if
any ?

A. It is the Diamond track, is a stub-track.

WILLIAM A. HAVEN, recalled for the petitioners, and
examined by Mr. McMillan, testified as follows : 2033

Q. The Erie is a double-track road, is it not, at the
point where it crosses the main lines of the Lake Shore ?

A. No, sir, it is not a double-track road, because our
crossings have just been put in, and they are not con-
nected, as yet, with the other tracks, either on the east
or west.

Q. It is the intention, and is in process of construc-
tion, making it a double-track road ? 2034

A. Yes, sir ; that is the track I spoke of in my direct
testimony a day or or two ago ; that was agreed upon
with the Lake Shore people last year ; in point of fact,
it is not used at present as a double track.

Q. When that track is put in, it will be a double
track at that point ?

A. Yes, sir.

PETER EMSLIE, sworn for the petitioners, and exam- 2035
ined by Mr. McMillan, testified as follows :

Q. You reside in Buffalo ?

A. Yes, sir.

Q. And have for how many years ?

A. Thirty-five or forty years.

Q. You are a civil engineer by profession ?

A. Yes, sir.

2036 Q. And for a number of years you were connected in that capacity with the Lake Shore Railroad?

A. Yes, sir.

Q. For how many years were you connected with that company?

A. About eleven years.

Q. You had charge, as engineer, of the Buffalo division?

A. Yes, sir; chief engineer on the Buffalo and Erie
2037 up to the time of the consolidation, and after that division engineer.

Mr. McMillan showed witness map marked "Petitioner's Exhibit No. 3."

Q. This map shows the transfer of the Erie crossing, the yard at the transfer-house, and it also shows these dark lines running from the top to the bottom of the map, indicating a double-track road projected by the Lackawanna Company, running across this lot, colored
2038 blue in "Exhibit No. 2," and taking a strip one hundred feet in width—I will ask you now if you purchased some of this property for the Lake Shore Company?

A. Yes, sir; I purchased all of this up on the Abbott road.

Q. That is lot 168?

A. Yes, sir; and sixty-seven and seventy.

Q. With the exception of those two strips through
2039 here which belong to Mr. Bork, or stand in his name?

A. Yes, sir.

Q. The Lake Shore Company also own lot 185, the one colored blue?

A. Yes, sir.

Q. And the Erie Railway owned lot 184?

A. They did.

Q. What do you say, if the proposed Lackawanna road is laid down at grade through lot 185 as indicated on map number three, occupying a space one hundred

feet in width, and grading it up to make it sufficiently 2040
high to cross these tracks of the Lake Shore and the
Erie, how will that affect the usefulness of lots 185, 184,
168, 169 and 170 for railway purposes, as intended to be
used by the Lake Shore Company?

A. Well, I think it will virtually destroy the use of
185.

Q. Will it not also cut off switches from 184, 168,
169 and 170, to run the switches around in that way?

A. Yes, sir.

2041

Q. Would it be possible to utilize lots 184, 168,
169 and 170 if this road was built through here?

A. I think it would be very difficult to utilize them.

Cross examination, by Mr. Locke :

Q. When was 185 bought ?

A. I don't recollect ; I think it was bought before I
was engineer on the line.

Q. When were you engineer on the line, first ?

2042

A. I commenced, I think, in 1867.

Q. When was this map made?

A. This map was made four or five years ago.

Q. It would appear to better matters provided the
Lackawanna crossing was put across this Erie Railway
and run across in that direction on the proposed altered
route. If removed two hundred feet from its proposed
route, it would materially prevent all injury to Lake
Shore land, and the Erie Railway land, and everything 2043
of the sort?

A. Well, if you should cross down here below it
would be better, because they could get out on these
lands.

Q. If they cross down four hundred feet away it
would be better?

A. Yes, sir.

2044 Q. But would a removal of two hundred feet away make any difference, practically?

A. Up here it virtually cuts them off.

By Mr. McMillan: Q. What is the scale of this map?

A. I believe it is fifty feet to the inch.

By Mr. Locke, resuming: Q. Mr. Emslie, have you been pretty familiar with that locality for a good many years?

A. Yes, sir, I have.

2045 Q. Do you know how the tracks are arranged there at the present time?

A. I put most of them in, myself.

Q. Does this map show the Lake Shore tracks on lot 185 about as they are at present?

A. That I could not say; I have not been there, I guess, in three years.

Q. Does it show them as they were three years ago?

A. Yes, sir.

2046 Q. Do you know who 185 was bought from?

A. I don't recollect, now.

Q. Now, Mr. Emslie, was there ever a time when you had any connection with the Lake Shore Road when it required a fuller use of 185 than it had at the time you left the company, did the company ever require the use of 185 to any greater extent than when you left?

Mr. McMillan: We admit that, Mr. Locke; there is no question about that.

2047 Q. How long were you engineer, do you say?

A. I was engineer from 1867, I believe, to 1878 or 1879, 1879 I guess.

Q. During all that time this Eric crossing was operated?

A. Yes, sir.

Q. That was in there before you went there?

A. Yes, sir.

Q. You managed to do your business with that Erie 2048 crossing there, did you not?

A. Managed to do it, but it was pretty difficult, sometimes.

Mr. McMillan stated that he here rested his case, with the exception of calling Mr. Clark, if he should arrive before the process was closed.

R. MILFORD BARRIAN, sworn for the respondents, and 2049 examined by Mr. Locke, testified as follows :

Q. Where do you reside?

A. At present in the city of Buffalo.

Q. What is your business?

A. Civil engineer.

Q. How long have you been a civil engineer?

A. In the neighborhood of thirteen years.

Q. During that time in what works have you been 2050 engaged?

A. I have been engaged on the New York Central Under-ground; made surveys connected with that; the construction of the Grand Central Depot in New York city, and laying out and construction of their tracks and buildings connected with the construction of that depot; the building of the Fourth avenue improvement, or rather two miles of it, being division engineer upon that; the construction of the Bay Ridge end of the New York and 2051 Manhattan Beach Road, as engineer for a year, and division engineer of the Boston, Hoosac Tunnel and Western Road, and the surveys of two others that have not been constructed.

Q. What is your present engagement?

A. It is with the New York, Lackawanna and Western Railway, as division engineer of the Buffalo division.

Q. Extending from what point to what point?

2052 A. Extending from a point some three miles east of Pavilion to Buffalo.

Q. How old are you?

A. About thirty-three years of age.

Q. Do you know this locality of the proposed Lake Shore crossing?

A. Yes, sir, I think I do.

Q. Did you have anything to do with locating the Lackawanna route from East Buffalo around to Erie street?

A. I assisted in making that location.

Q. Have you been frequently upon the premises?

A. Yes, sir.

Q. And you know the whole Lackawanna line of the Buffalo division?

A. Yes, sir.

Q. Have you had any experience in reference to grade-crossings of railroads?

2054 A. Yes, sir, I have had some.

Q. Are you familiar with different grade-crossings at different points I mean?

A. Yes, sir.

Q. Take the Manhattan Beach Road with which you were connected, how long a road is that?

A. I think it is some twenty-two miles.

Q. Extending from what point to what point?

2055 A. Extending from Bay Ridge to Coney Island, and from Green Point to Coney Island, making a "Y" in its construction, it forms a letter "Y."

Q. What is that road principally used for?

A. It is used as a carrier of summer travel to Coney Island.

Q. From New York?

A. From New York and from the surroundings of Bay Ridge and Green Point to Coney Island, a passenger road.

Q. Do you know how many passenger trains run over the road a day in the busy season? 2056

A. No, I cannot say, I can estimate, about one hundred trains a day.

Q. During portions of the day how rapidly do they run?

A. They have run, at the time I was connected with it, as often as twenty minutes during the time between one P. M. and eleven at night.

Q. Are there any grade-crossings on that road? 2057

A. There are four as I remember it, two of which I constructed myself.

Q. Which did you construct yourself?

A. I constructed the crossing which forms the intersection with the Brooklyn, Bath and Coney Island Road, and the Prospect Park and Coney Island with the Manhattan Beach.

Q. Those are both carriers of passengers? 2058

A. Yes, sir.

Q. Do they have a large summer travel?

A. Very large, the Prospect Park and Coney Island especially.

Q. How frequently do trains run upon those roads?

A. They run on the Brooklyn, Bath and Coney Island—they did run rather—some forty-seven trains a day, and on the Prospect Park and Coney Island something over a hundred. 2059

Q. Trains a day?

A. Yes, sir.

Q. Do you mean by trains a day, twenty-four hours?

A. Yes, sir.

By Com. McAlpine: Q. Up and back?

A. No, sir, I mean trains shown by the time-table both ways, passing over the crossing as trains.

By Mr. Locke, resuming: Q. Now, sir, with those crossing roads, as well as with the Manhattan road, the

2060 principal part of those trains are run between certain hours, are they not?

A. Yes, sir; they are run in the afternoon after one P. M. until ten or eleven at night.

Q. So that the bulk of all that business is done between those hours?

A. Yes, sir.

Q. Are you acquainted with the crossing at Elizabeth, New Jersey?

2061 A. No, sir, I am not.

Q. You say you had something to do with the improvements of the New York Central around the 42d street depot?

A. Yes, sir.

Q. Are you familiar with the construction of tracks at that point?

A. Yes, sir.

2062 Q. Are you familiar with the tracks in front of the Grand Central Depot in New York?

A. I am familiar with them in 1871-2. They may have changed them since that time.

Q. Just describe the arrangement of the tracks leading to and from the Grand Central depot?

A. The general arrangement?

Q. As distinctly as possible in regard to the intersection of tracks?

2063 A. Well, in approaching the depot, coming from the north, the road is run right-handed, but at a point in the neighborhood of 50th or 51st street—I cannot place it precisely—they change over, they cross over, so that all trains going into the Grand Central depot, or coming out, have to cross over at that point; the incoming trains being on the east side of the Grand Central and occupying the three tracks, the outgoing trains being on the westside, taking up some twelve or thirteen other tracks—

the storage tracks in front of the Grand Central, lead- 2064
ing out from the through track on the north.

Q. So that all trains going into that depot, at that time, certainly cross the tracks of all trains going out of the depot?

A. Yes, sir ; not only all trains going into that depot, but all local freight on the Harlem road, which does not go to the Grand Central, but runs to their local depot, at the corner of Center and White streets, also a portion of the New York and New Haven local freight. 2065

By Com. McAlpine: Q. Did you say that the freight of the Harlem and of the New Haven did not pass through the Grand Central depot?

A. It don't pass through it, it passes on the east side of it, around the depot, going through the old tunnel, between 42d and 34th streets ; I think it is down to the depot, at White and Center streets ; this was at the time that I was connected with the road ; change may have taken place since that time, that was up to 1878, January, 1878. 2066

Q. What do you say as to the feasibility of a grade-crossing of the Lake Shore and Erie tracks, at the point located by you?

A. Here in Buffalo?

Q. Yes?

A. I think it is feasible, and can be operated successfully. 2067

Q. Assuming that both the proposed line of the Lackawanna Company, and the proposed altered line involved grade-crossings of the Lake Shore and Erie tracks, in what respects is one line preferable to the other?

A. First in alignment, the alignment of the Lackawanna in its approach to crossing the Lake Shore and Michigan Southern, is that of a tangent or straight line, while that of the proposed route by the Lake Shore and

2068 Michigan Southern, and New York, Lake Erie and Western, is that in its approach of reverse curves, and somewhat longer to operate it; that is two reasons.

Q. Which is the most expensive line to construct?

A. At grade?

Q. Yes, sir; assuming they are both grade-crossings?

A. Well, materially, I think that the mere cost of construction would not vary but little, one from the other.

2069 By Com. Clark: Q. Do you mean to be understood in your second objection that the objection to reverse curves consists in the fact that it is somewhat longer to operate?

A. That is a slight objection.

By Com. Clark: Q. That is the only one you named?

A. Yes, sir.

By Mr. Locke, resuming: Q. What other objections are there to reverse curves?

2070 A. Besides operation?

Q. Or any other objection aside from the length?

A. That is about the only objection to them—is in the operation of the road.

Q. That objection in the operation don't wholly depend upon the increased length of the road-bed?

A. No, sir; it is the mere fact of traveling over those reverse curves.

2071 Q. Why are reverse curves disadvantageous?

A. The track instead of being on a straight line, being on a curved line, the friction is greater, and necessarily requires more power to propel.

Q. And a reverse curve is worse for that reason than a simple curve, is it not?

A. Generally it is; yes, sir; if curves are reverse in direction, very short, they would be preferable to a long continuous curve.

Q. Have you examined the profile attached to the

map of the proposed altered line served upon the petitioner in this proceeding? 2072

A. Yes, sir.

Q. Can you tell me the distance over which it is proposed to change the grade of the Lackawanna road?

A. The distance over which it is proposed to change the grade?

Q. Yes, sir.

A. Not without the map.

(Presents map to witness.)

2073

A. It is something over two miles.

Q. Have you estimated the increased cost of construction of the road according to the profile attached to the altered line as shown on that map, over the cost of construction of the line as proposed by the Lackawanna Company?

A. Yes, sir; I made an approximate estimate.

Q. How much more would it cost to build the line on the altered route according to that estimate, than the other line? 2074

A. Approximately about \$490,000; that is line *A* and *B* taken together.

Q. Taking the grades running westerly from the Lake Shore crossing according to the proposed route, will you state what would be the effect upon your line as it progresses towards Erie street as laid down upon that map? 2075

A. As I remember the position of our grade point at what is shown as station 150 of the located line, the grade as proposed by the New York, Lake Erie and Western, and Lake Shore and Michigan Southern, would not intersect with us—would not connect with us.

Q. How far would it come from connecting with you?

A. Well, approximately between two and three feet.

2076 Q. Then they have not carried their grade far enough to bring it down to your line ?

A. I would rather say it in this way, that they have carried their grade so far that at some point west of station "150," it would be some three and one-half feet below our located grade line ; it would connect at some point, but they have carried it so far that there is no connection.

Q. What was the object in carrying that so far ?

2077 A. That is more than I can tell you.

Q. It lessened the grade, didn't it, by carrying it so far ?

A. Not necessarily ; it did not lessen the rate of grade, but I might say that by carrying it that far it makes it still more difficult to cross the Ohio Basin slip at the elevation the State engineer requires to cross at.

Q. Just explain it ?

2078 A. The grade elevation at station "149," of their own line as proposed, is five hundred and thirty-five feet above the assumed base ; this base is said to be tide level at New York ; it is so marked here five hundred and thirty-five feet, while that of the located line of the New York, Lackawanna and Western at the same point has a grade elevation of five hundred and thirty-nine above.

Q. Five hundred and thirty-nine feet ?

2079 A. Five hundred and thirty-nine feet ; we suppose those two bases to be the same base as used by us in filing the located line.

Q. What is that base ?

A. I could not say what that base is ; it was a base assumed from elevations furnished or published by the New York, Lake Erie and Western Railway Company starting near Linden, in Genesee county ; what that base is I cannot say ; it has been carried through to this point.

Q. Their profile here purports to be founded on the same base lines as yours? 2080

A. It is so marked in the elevation.

Q. Now state what difficulties any such depression would involve you in in regard to the extension of your line westerly.

A. The Ohio Basin slip has a position in regard to that station "150"—I cannot say that positively, but it is about in the neighborhood of two hundred feet west of that station "150," so that to get to the point designated by the engineer, or even by our own grade line as I saw it would cause a very heavy grade. 2081

Q. How much of a grade, in round numbers?

A. To get to the point filed by the State engineer it takes over two hundred and sixty feet to the mile.

Q. Take your own point?

A. Take that of our own, about one hundred and twenty-five I think.

Q. To get over the Ohio slip? 2082

A. To get over the Ohio slip; I would like to say in connection with this, why I mention the State engineer, or rather the division engineer of the canals of the western division; his report on that subject was given to us, and the points fixed; the point and elevation of crossing was fixed after our line had been filed; at the time of filing we supposed we could cross at what we have placed it, at any elevation across that slip, but even with that elevation that we have fixed, it was about one hundred and twenty-five feet to the mile to get to that point even as it stands. 2083

By Com. Clark: Q. Lowering the grade to the point of the amended profile shows what would be the grade?

A. To reach our own grade line, one hundred and twenty-five feet, to reach that of the State engineer something over two hundred and sixty.

2084 By Com. Clark: Q. Will the grade be changed by the altered profile that is filed?

A. It would be changed from a grade rate of something like five feet to the mile to one hundred and twenty feet in a mile over that distance of one hundred and twenty feet.

By Mr. Locke, resuming: Q. By depressing it five feet?

A. Yes, sir; the thing when completed would show
2085 something like that; they carried us down and fixed a place on their amended profile as one hundred and twenty-five and two hundred feet west of that; we have to reach the abutment of the present canal; to do that it requires one hundred and twenty-five feet and two hundred feet west of that we have to reach the abutment of the present canal; to do that it requires one hundred and twenty-five feet to the mile to get up again; I do not mean to say that it would be impossible to connect
2086 us with that grade, but they have carried us so far that they cannot connect in that way; the grade can be connected to this grade as shown on that projected line.

Q. You have heard the testimony that has been given here in regard to the use of that crossing?

A. Yes, sir, I have heard the greater portion of it.

Q. Of the present Erie crossing?

A. Yes, sir.

2087 Q. Is there any trouble, in your judgment, in arranging those tracks so as to greatly lessen the evils of the crossing?

A. Well, there would seem to be a feasible way by purchasing additional property, and some laying of rail and track would obviate that difficulty.

Q. Is there anything about this grade crossing which makes it peculiarly objectionable as a grade crossing over and above other grade crossings in the city and in the country with which you are familiar?

A. Well, with those crossings that I am familiar with 2088
this is somewhat peculiar, as it is located near the
throat of the Lake Shore and Michigan Southern and
Erie yards, over which they seem, in doing their work,
to pull all their cars and throw them in and out.

Q. Does not the fact that all trains already have to
stop at that point compensate for that to some extent?

A. Yes, sir, so far as the location of our crossing is
concerned, the Lackawanna crossing that you speak
of— 2089

Q. I am speaking of the location of our crossing.

A? Yes, sir, that makes a very material difference.

Q. One great objection against crossings is the neces-
sity of stopping trains?

A. The first necessity, yes, sir.

Q. That is one of the great objections?

A. Yes, sir.

Q. Of course that is eliminated if a point is selected 2090
where all trains have to stop already?

A. Very materially.

Q. Do you know how the Lake Shore yard is run,
right-handed or left-handed?

A. I could not say definitely as the movement of their
trains.

Q. I thought you had observed it.

A. I have observed it, but not sufficiently to swear
to it. 2091

Q. Are there any advantages that you can mention
in connection with the proposed altered line which make
it superior to the proposed line except such as have been
mentioned here by you?

A. I can't see any.

Q. If the altered line and proposed line are both at
grade, is there any practical difference between the diffi-
culties occasioned the Lake Shore by their construction?

A. I can see none.

2092 By Com. Clark: Q. How would it be with an over-head grade, two over-head grades?

A. Ours would be far superior.

By Mr. Locke, resuming: Q. Why?

A. On account of its alignment particularly.

Q. Would the over-head crossing at the point of intersection designated by you be any more troublesome to the Lake Shore or Erie than the overhead crossing at point they designate?

2093 A. Not that I can see.

Cross examination, by Mr. Milburn:

Q. Has your experience been confined to constructing railroads, or have you had charge as engineer of railroads or parts of railroads in operation?

A. It has been confined to that of constructing, engineering, locating and constructing engineering.

2094 Q. That is the construction of new roads or extension of roads?

A. Yes, sir.

Q. And your experience has not been in connection with the changes or with the engineering department of a railroad in operation where you would have to consider all the questions of operation coming up?

A. I have never managed a railroad in operation.

2095 Q. Or been engineer in charge of a railroad or division of a railroad in operation?

A. Yes, sir, I have.

Q. What was that?

A. The Boston, Hoosac Tunnel and Western was one?

Q. Were your duties confined there to construction?

A. Construction, yes, sir.

Q. Just what were you doing in connection with the Hoosac Tunnel line?

A. I was, from the time that they first made the pre-

liminaries until my leaving, a portion of which time the 2096 road was operated——

Q. How long was the road in operation?

A. I declare it is pretty hard to fix it, we had so many construction trains running over it; I think about five or six months before my day.

Q. You have not then been, in your engineering duties, connected with roads where a part of your duty was to be brought in contact with grade crossing in actual operation? 2097

A. My duty in that direction has been to locate some of them with roads in operation?

Q. New roads?

A. Well, old roads in operation.

Q. Locate new crossings and new roads over old roads in operation?

A. Yes, sir.

Q. Now, take the Manhattan road that you spoke about, both the road itself and the roads which cross it 2098 at grade, are they not passenger roads?

A. Yes, sir.

Q. Busy during one part of the season?

A. Yes, sir.

Q. Running from terminus to terminus over a distance of what?

A. The Brooklyn, Bath and Coney Island is somewhere in the neighborhood of six or seven miles in length, 2099 and the Prospect Park six miles, I think, while the other crossings were that of the dummy line which operates trains every five or six minutes, and the other, that of the Long Island Railroad, which operates by quick transit at that point, running trains every twenty minutes, I think.

Q. How long a road is that Long Island road?

A. About four or five hundred miles.

Q. With the exception of the Long Island road all

2100 the others are short roads, connecting New York City and Brooklyn with these watering-places?

A. Yes, sir.

Q. And the trains between those points are not called upon to stop at many intermediate stations?

A. Yes, sir; they have a station about every mile on the two roads, the Brooklyn, Bath and Coney Island, and the Prospect Park.

Q. All those passenger trains are run on schedule
2101 time?

A. Yes, sir; that is to the best of my knowledge, I know nothing of it.

Q. That is a fair presumption with passenger trains?

A. Yes, sir.

Q. A crossing of that kind, of one passenger line by another passenger line whose trains are running between points not far distant from each other, on established card time, is a very different condition of things from a
2102 crossing where the business is large freight, and a great deal of switching is done, is it not?

A. Yes, sir; there is considerable difference.

Q. As an engineer, you could scarcely compare the two crossings as offering any analogies, one bearing on the other, could you?

A. Well, in these cases which I know fairly well, their schedule time is very often up and down, they have such rushes that they run almost entirely by wire, at
2103 times they get a block.

Q. Just take the precise question that I put to you, you can scarcely compare the crossing that we have here and its situation with these crossings on the Manhattan railway, as an engineer, as furnishing any analogies to each other?

A. Oh, I think there is considerable of a resemblance.

Q. The resemblance lies in the fact don't it, that in

each case one set of tracks is laid across another set of 2104 tracks?

A. That is part of it, yes, sir.

Q. In all the business done over there, the kinds of business or methods of doing the business, and the way that business is regulated, do they not entirely differ in each case?

A. I think there are some points similar.

Q. Don't they in the main differ?

A. No, I think not, in the main.

2105

Q. You think there is little difference between one passenger line crossing another passenger line with nothing running over but passenger trains between termini not far distant, and a crossing over ten tracks in a freight yard where switching is done, you think there is not a great deal of difference?

A. I think there is some difference.

Q. Wherein would you say the differences are?

A. Well, the differences are in the manner of operating. I know nothing of the details of their manner of operation. Their operation, their manner of operation there may be fully as good as the manner of operating through trains on any other line under another party.

2106

Q. And by a system of arranging their trains in reference to each other, a great many difficulties and certainly delays, can be obviated at the crossings of the 2107 Manhattan railroad?

A. Yes, possibly they could.

Q. Now, is it possible by any such arrangement to obviate, in any degree, difficulties and delays arising there just as the business is done?

A. I testified, I thought, by—

Q. Apart from the re-arranging of tracks, and by a system of arranging their trains in reference to each other, a great many difficulties and certainly delays, can

2108 be obviated at the crossings of the Manhattan railroad, I mean any arrangement bearing on the running time of trains ?

A. And with the tracks in the position they are ?

Q. Yes, sir, with the situation as it is ?

A. It may be.

Q. How could it be ?

A. Well, not being familiar with the details, I say, the operating of roads at that point, there are, however, 2109 places operated in the country in which crossings are made very frequent, and in which danger is almost entirely obliterated.

Q. Do you know any other crossing which resembles this proposed crossing by the Lackawanna in its characteristics as to the business done, in all of its characteristics, if you know another like it ?

A. Taking the crossing as it stands, with the tracks arranged as they are, it is a little different perhaps from 2110 the generality of crossings.

Q. Do you know of any crossing, except the straight crossing of the general railroad, of one railroad company by the general railroad of another railroad company ?

A. I think you have it right here in Buffalo.

Q. What one in Buffalo ?

A. The one of the Niagara Falls branch, or the sidings adjoining, and run as I believe by the New York Central, in which they are making up trains and hauling 2111 trains backward and forward over the crossing of the International line from the city of Buffalo to the bridge on the Erie road, or Erie International.

Q. At what point is that crossing in reference to the International bridge ?

A. It is north of the bridge, north and east.

Q. Will you point out where that is on the map ?
Witness indicates.

A. It is where the Erie International railway passes

over the Niagara Falls branch of the New York Central 2112
on their way to the bridge, and the New York Central
yard, as I have seen it, lies on each side of the main line
of the Niagara Falls branch of their road, and I have
seen trains drilling backwards and forwards on that same
crossing.

Q. Don't you know that all the tracks on the river
side of the New York Central are Erie tracks?

A. That may be, but I am speaking of trains that I
have seen drilling, and the block signal used in different 2113
positions while I have been passing on the west side of
the same point.

Q. Do you compare that crossing in reference to the
business done over it to the crossing in question here of
the Lake Shore and Erie tracks?

A. It is a crossing which drilling is done over to a
certain extent.

Q. That is that you have observed when you have
been down there? 2114

A. That I have observed myself.

Q. Is that crossing in a freight yard?

A. It is not exactly, as I will say, in the freight yard,
but it is in connection with it, and they move over it in
doing their work, or they did at these particular times
when I saw it.

Q. With that exception do you know any other cross-
ing?

A. I think I do at this same map, the crossing of 2115
the Buffalo, New York and Philadelphia, their main line
and that of the New York Central near North Division
street, the four tracks as I remember cross here with the
New York Central at a point where a great quantity of
freight is moving at all times together with passengers.

Q. Where any trains are made up and switching is
done?

A. I could not testify as to that, but the trains and

2116 numbers, and the number of cars that pass over I think will compare favorably with the point mentioned.

Q. But you cannot say that there is carried on the same kind of business?

A. It may be.

Q. The making up and the distributing and assorting of trains that is carried on at this crossing in question, I don't care what it may be, I want simply what you know, if it is the fact, it will no doubt appear, if you 2117 know it is, or if you don't know it?

A. I stated all I know of it.

Q. You don't know whether that kind of business is carried on there or not?

A. I cannot say that I do.

Q. Now then, any other crossing?

A. Let me look at the map again, as a matter of crossing I think there is one located between Seneca and Clinton streets west of Babcock, in which the Erie, the 2118 Buffalo and Philadelphia, and the transfer-track of the Buffalo Creek railway intercept one another, in points, taking it as a triangle not more according to this map than four hundred feet apart, the points of the triangle.

Q. That is the main line of the Erie and the Buffalo Creek, and the Buffalo, New York and Philadelphia roads intersect each other according to such a triangle?

A. Yes, sir, not only the main line of the Erie, but 2119 their river freight, speaking of the danger more particularly, the danger of crossing of trains and the amount of travel that goes over those three points of crossing.

Q. How well acquainted are you with that crossing?

A. Nothing more than from necessity.

Q. How many times have you seen it?

A. I could not tell you, every time I have ridden over it I have seen it going in and out of Buffalo.

Q. On trains?

A. On trains.

Q. How many times has your mind been brought to 2120
bear by actual observation to a consideration of the busi-
ness done, and the questions at that crossing?

A. Every time I have passed over it I think I have
noticed it.

Q. Whenever you have passed over it?

A. It has been called to it from the fact of the mere
crossing.

Q. Outside of the city of Buffalo do you know any
crossing in your experience as an engineer similiar to 2121
this one?

A. Not precisely similar.

Q. Do you know any crossing in the freight yard of
any other railroad?

A. I think I do know of one.

Q. Where is that?

A. Whether it is in operation or not—in the city of
Buffalo, or anywhere.

Q. Outside of the city of Buffalo?

2122

A. Not any that is in operation; there is one on the
map.

Q. That is at the point of crossing there; that is a
freight yard there, is it not?

A. I believe so.

Q. Where a great deal of switching and making up
of trains and distribution of trains is going on?

A. At the present, yes, sir.

Q. When you were locating this line—did you take 2123
that question into consideration at all?

A. Yes, sir, I did, very materially.

Q. You knew it was a pretty serious matter?

A. I knew that there was a crossing at that point,
which everything was operated over.

Q. Just take it as I go along; we never can lose sight
of the fact that there is a crossing there; you say you
gave it very considerable attention?

2124 A. Yes, sir.

Q. I ask you if you did that because you regarded it as a very important matter, a serious matter?

A. I thought it was our duty to locate this line at the most feasible point of crossing.

Q. Do you, as an engineer, consider the location of a line over ten tracks in a freight yard as a matter to be avoided if possible?

A. Yes, sir, it is a matter to be avoided, if possible.

2125 Q. Do you not, as an engineer, think that such a crossing, should be avoided even at a considerable expense?

A. There is a limit of course to the expense.

Q. I mean at a considerable expense?

A. Yes, at some expense.

Q. What would be your estimate of the expense that you should go to, to avoid a grade-crossing at a point like that?

2126 A. That would depend entirely upon the business of the New York, Lackawanna and Western Road, and what they could afford to do.

Q. As an engineer in question, you say that that is a condition of things which should be avoided if possible?

A. Yes, sir, I will limit it, though it is a condition of things to be avoided if possible, when the crossing is first laid.

2127 Q. I am now talking about the precise crossing that you locate, if that was a condition of things to be avoided, you speaking as a sound engineer, if possible?

A. Yes, sir, it is to be avoided, if possible.

Q. Then I will ask you if it could be avoided by a considerable expenditure of money, if, as a good engineer, you would not go to that expense?

A. Well, that depends very materially upon the matters connected with it.

Q. That depends very materially upon the road which 2128
you are locating ?

A. And the position of the road that I cross, and the
relations of that road with other roads at that point.

Q. Is there any other question at that point, is there
any obstacle in the way of an over-head crossing of those
tracks ?

A. On general principles there is no obstacle, there is
no physical difficulty.

Q. Is there any engineering obstacle of any kind to a 2129
crossing there by an over-head ?

A. Unlimited*by expense there is none.

Q. The only question that enters into that, is the
question of expense ?

A. Not only in construction, but in operating the
road.

Q. The question of expense in construction, and the
question of expense in operation ?

A. Yes, sir.

2130

Q. With an over-head crossing substantially built
there, do you say that its maintenance and its operation
would be more expensive than the expenses involved
in the delays in business, and damage to rolling stock,
etc., by a grade crossing over ten tracks ?

A. It might be so.

Q. Now what might be, we are coming down to the
question of your best judgment, which is a very good 2131
judgment ?

A. I think that answers it, that it might be such.

Q. You have examined these plans; now, you have
made an estimate of what it would cost to build these
structures that our plans call for ?

A. An approximate estimate, yes, sir.

Q. And to make that estimate, you have had necessarily
to take into consideration the kind of a structure that
would be built; now, what difference would there be in

2132 the cost of operating over that structure, to operating a road, an ordinary road on the ground, what would be the difference in the expense of operating?

A. I could not say.

Q. Tell us what the subject matter of the expenditure would be?

A. We are speaking of these two particular crossings, one over-head and the other at grade?

Q. Precisely?

2133 By Com. Clark: Q. Irrespective of the other conditions, do you mean?

Mr. Milburn: No, sir; just as it stands there; he has spoken of the expense of operation and expense of construction; I want to know what is the expense of operation, I don't understand it?

A. The expense of operation of the line as proposed here with the grade and the alignment, necessitates a greater expenditure of power to do the business, an expenditure that you might find with the trains, operated
2134 by the New York, Lackawanna and Western Road, to be sufficient to require the extra use of another engine even in every case.

Q. Let us see if that is so; your road goes through Ohio street, don't it?

Q. As located now, it does.

Q. This expense of operation that you speak of is in connection with the grades that our alteration gives you,
2135 and the curves?

A. Yes, sir, in connection with it.

Q. Now, there is only one curve, is there?

A. There are three distinct curves as proposed on lines "A" and "B."

Q. Your own line "B" is on a curve, is it not?

A. Yes, sir; I should have said two curves.

Q. Are those the two parts of the curve which make a reverse curve?

A. Yes, sir; they are the two parts. 2136

Q. Now, coming into a city, and your trains as you come in there, do you seriously state that the reverse curve is an item of expense in operation?

A. Any curve is an item of expense in operation.

Q. Can you give us anything to measure the expense that you attach to that curve just as it is there?

A. Not theoretically in that case, but there is an expense of operating any road with curves, or any curve.

Q. Your railroad has curves in it, has it not? 2137

A. Yes, sir.

Q. Has reverse curves in it?

A. Not that I know of; there are none on my sixty-three miles.

Q. Not a single reverse curve?

A. Not a single reverse curve.

Q. What is our severest curve?

A. Our severest is in crossing either the Niagara Falls branch of the Erie, or Central north of the city; 2138
I think it is a five-thirty curve.

Q. This is a what curve?

A. This is a three, I believe.

Q. Now, what is the heaviest grade you have on your part of the line?

A. Thirty feet to the mile, and we have lengthened our line materially in the endeavor to reduce the grade-rates on this sixty-three miles, lengthened the line of the whole materially. 2139

Q. Now, could you, in the operation of that road, attach any particular expense to this slight reverse curve on our proposed alteration?

A. As I say it is expensive to operate any curve, and curves are only introduced in a railway where it is impossible practically to do away with them.

Recess until two o'clock.

Q. You said, to get back to the starting point, that

2140 grade-crossing at this point should be avoided, if possible?

A. I said that on general principles a grade-crossing should be avoided in all cases, speaking of it in relation to a first crossing of another road, not in relation to this particular point.

Q. Well, you said that a grade-crossing should be avoided if possible, and in this case the only question that could be considered against an over-head crossing
2141 was the question of expense; that is a fact, is it not?

A. The expense enters largely into it; yes.

Q. Is there any other element that enters into the question?

A. There is in this case an additional cost in the operation of the road.

Q. But that is all expense?

A. Yes, sir, that is an expense in operating, while the other was expense in construction, I suppose.
2142

Q. You divide the expense into expense of operation and expense of construction; the expense of construction is the expense of making these structures necessary to leave your present grade at a certain point, get an over-head crossing, and then return to your grade?

A. That is the expense of construction.

Q. The expense of operation, as I think you said, was the additional expense in the operation of your road, incident to that reverse curve, and the grades which we
2143 impose upon you?

A. Those are the others that enter into it in that regard.

Q. And you say you cannot give us figures or proportions which would define the amount of expense which you attribute, or would attribute to that reverse curve, or to the grades?

A. Not practically; I have never operated; it is theoretical with my conclusions in that respect.

Q. But you can think of no other expense of operation involved by the proposed altered route, than that incident to the reverse curve and the grades which we impose upon you? 2144

A. There might be an additional expense in case a connection at grade wanted to be made with the Lake Shore and Michigan Southern Railway, it is quite possible.

Q. Then you would have from some point or other, to throw off some connecting tracks, would you not? 2145

A. Some connecting tracks.

Q. That you would have to do any way?

A. Yes, that we would have to do any way.

Q. You could do it more conveniently on a grade-crossing where you are now, than an over-head crossing?

A. Yes, sir.

Q. Now, you won't say that the expense of the operation of your road incident to that reverse curve, and the grades which we impose upon you, are at all comparable in amount to the expense and cost involved by a grade-crossing at that point? 2146

A. They are certainly to be taken into account in operating this over-head crossing very largely; as I said before, there might possibly arise a case where with the grades that are imposed by this over-head, an extra engine would be needed to carry a train, or to shove a train; whereas on the grade-crossing that we now have as projected it could be taken care of with a regular train engine. 2147

Q. Take now our original profile; the heaviest grade we impose upon you coming from the Buffalo River direction, would be what?

A. Fifty-two feet I believe is the heaviest; fifty-two and eight-tenths feet per mile.

Q. Do you remember what that grade would be in the altered profile?

2148 A. If I remember rightly, that grade that I speak of, the fifty-two and eight-tenths, was a fifty-two grade; leaving then the forty intact; the forty still remain approaching from the east.

Q. Then taking our amended profile, then this grade of 40.34 feet to the mile, would be your heaviest grade?

A. From the east.

Q. Now, whether or not an additional engine would be required there, would depend entirely upon other
2149 grades upon your road that you had to climb with the same trains; if you have, coming from the east, a heavier grade than forty feet to the mile, then there could be no such thing as requiring an extra engine?

A. If that grade was distributed throughout the line there would be no objection to operating a forty here.

Q. Supposing that you had a forty-feet grade fifteen miles from here, your train coming along, there could be no question of an extra engine to be required at this
2150 grade, inasmuch as you have come up one grade?

A. At a point fifteen miles away it would be no objection to this.

Q. Now, with the trains, do you know anything about the grades of your line beyond your division?

A. I have an approximate idea.

Q. What grades have you?

A. You must recollect, first of all, there is nothing on
2151 my division, which is sixty-three miles, greater than a thirty, or at a point fifty miles from where we are now speaking; on the direct line there is no grade to exceed a thirty.

Q. Well, what grades are there?

A. Well, east of that I think a thirty-one is a maximum, to the Genesee Valley, going west, 31.68, I think it is, going west from the Genesee Valley; that is on two hundred miles.

Q. You are speaking now of trains moving westward 2152
from the east ?

A. Yes, sir.

Q. Now, taking the difference between a thirty foot
to the mile grade and a forty foot to the mile, as matter
of practical operation of railroads; is that such a differ-
ence in grades as to make extra engines necessary ?

A. It depends entirely upon the length and weight
of the train.

Q. Of course it does, but what I am taking now is, 2153
taking this railroad with the grades that you have, and
with the curves that you have, would you operate or be
likely to operate trains on it coming west that could not
get up a forty feet grade without extra power ?

A. It is very probable that a practical superintendent
operating a road would place on his train, knowing his
grade, all his engine could possibly do ; he would pro-
vide an engine, or provide a train of cars to work his
engine to the extent of his grade, a thirty foot grade ; 2154
additional cars, to get over forty, would necessitate the
placing of another engine.

Q. You really state that as a question of practical
operation of a railroad ?

A. I state it as my opinion.

Q. Is there any such close calculation in case of this
grade on this road ? Would your engine be tuckered
out at the bottom of it—do you think they run as close 2155
at that ?

A. Yes, sir, I think they run as close as that in nine
cases out of ten.

Q. How long is that grade ?

A. That grade is as projected here, three thousand
feet.

Q. How many cars to the engine can the freight
engines pull up a forty-foot grade ?

2156 A. It all depends on the size of the engine, and it would depend on the condition of the cars.

Q. Take loaded cars, and take the average engine that is in use, on these railroads, and how many loaded cars can it pull up a forty-foot grade?

A. As I say, I have not operated a road; I do not propose to limit myself to expressing what I think can be done.

Q. Well, if you take the longest trains that are
2157 pulled by the New York Central and Hudson River Railroad, over its track, could be pulled by one engine up that forty-foot grade, then your fear of an extra engine at that grade, or any expense from it, would be reduced to a minimum, wouldn't it?

A. I don't quite understand that question.

Q. If the longest through-freight trains that are pulled on the New York Central and Hudson River Railroad, with one engine, can be pulled by that engine
2158 up a forty-foot grade, why then your anticipation of extra expense at that grade for your trains would be reduced to a minimum?

A. I cannot say what the New York Central and Hudson River Railroad are imposing upon their engines.

Q. You don't know what they do?

A. No, sir.

Q. You know something about their grades, do you
2159 not, on their line?

A. I know something, very little.

Q. Can you say whether a single engine, the average engine in use, say, on the Lake Shore or New York Central or Erie, whether or not they can pull forty freight cars up a forty-foot grade?

A. The Erie has some that can pull that number up a forty-foot grade, and the Central has some that could not pull that number, or half that number up a forty-foot grade; I know the Harlem has engines that could

not pull twenty or seventeen up that grade; it depends altogether on the condition of the rails, the condition of the cars, and the ability of the engine.

Q. What is the greatest grade going east on this proposed alteration?

A. The greatest grade on my division is thirty feet per mile.

Q. No, I say on this proposed alteration?

A. It seems to be sixty-six feet to the mile.

Q. Now, on the amended profile what is that grade? 2161

A. Fifty-eight six-tenths to the mile.

Q. How long is that grade?

A. Twenty-seven hundred to three thousand feet.

Q. Is that grade on a straight line?

A. There is about twelve hundred feet of it on a straight line.

Q. And what is the curve of the balance of it?

A. It is a 1.30 curve; practically a straight line.

Q. Going back to this forty feet to the mile grade, is 2162 that a straight grade?

A. The forty-foot grade is on a straight line, the 5.28, on the amended twenty-two is on a three-degree curve, all of it.

By Com. McAlpine: Q. What is your rule for the resistance on a curve?

A. Practically it is inversely as the radius.

Q. But corresponding feet of elevation—you have some rule of that kind which you use generally? 2163

A. Corresponding feet of elevation.

Q. By Com. McAlpine: Q. A three-degree curve is in reference to how many feet per mile?

A. Well, it is practical to reduce to two feet to the mile for each degree of curvature; roughly stated, it depends altogether on circumstances, two feet to two and a half.

By Mr. Milburn, resuming: Q. Now, I come to the

2164 question whether you can say that the increased expense of operation by virtue of the grades and curves on our proposed alteration, is as to amount, any way compatible with the expense and loss by delay of the crossing of those ten tracks at grade?

A. I think that is determined entirely by the business that the road may do; it is a matter that cannot be estimated entirely simply by the relation of grade and lines, and position of that crossing.

2165 Q. Assume that in all this matter—these commissioners have got to assume about the amount of your business—and assume that you had as much business over that line as the Erie does over its line at that point?

A. Well, I would rather not state my opinion concerning that; I would prefer it would be placed in the hands of somebody who is competent to give it by the service and experience that they have had in operating.

2166 Q. How much deliberation did you give to that question before locating that grade-crossing?

A. I visited the place several times, noticed, as far as I could by the eye, the movement of trains back and forth, the switching and making up of trains, etc.

Q. Did you consider any other line to obviate that?

A. The point governing the matter most materially was that of the existing crossing; that being placed there, first; the next point was to bring our crossing as near as possible to that so that but one stop could be made, and that the line in crossing the tracks would interfere as little as possible with the position of frogs and switches as they then existed on the ground.

2167 Q. Now, did you consider any means of avoiding a grade-crossing at that point?

A. Yes, sir; I did; the line was selected in reference to both a grade and an over-head crossing.

Q. And what led you to choose a grade in preference to the over-head crossing? 2168

A. Very largely, the position and operation of the present crossing.

Q. That determined your decision in favor of a grade-crossing?

A. That was one of the points that determined it.

Q. What other points determined you in favor of that?

A. The desirability of making and interchanging freight, etc., with the existing roads, the Erie, Lake Shore and Michigan Southern; that entered into the conclusion as to the grade-crossing. 2169

Q. Any other?

A. And the position of existing streets, either east or west of the intersection of the Erie and Michigan Southern and Lackawanna, we thought it preferable, or I thought it preferable, that we should cross those streets at as near grade, or projected grade, as possible, rather than to shut up or shut out from view, make an unpleasant structure that an over-head crossing would necessitate. 2170

Q. In the street?

A. In the street and between the streets.

Q. And are you still of that same opinion, that the facts, all the facts connected with the business, the surroundings there, show a grade-crossing to be superior to an over-head crossing at that point? 2171

A. I think a grade crossing would be preferable.

Q. You are still of that same opinion?

A. I am still of that opinion.

Q. And the reasons that a grade-crossing is preferable to an over-head crossing, are the reasons that you have given there, that you can more conveniently connect with the Erie and the Lake Shore?

A. That is one of them.

2172 Q. That it will be less unsightly to have structures over the streets than grade-crossings of the streets, that is another?

A. Yes; and the other was the existence and operation of the present crossing.

Q. And you do not deny but what a crossing there that you propose, will operate as another serious element of delay of business at that point, do you?

A. Why, probably it will cause a delay, an extra
2173 delay.

Q. It will cause all the delay incident to the suspension of business there, whenever you are using either one of those crossings?

A. Quite probably.

Q. Have you taken any steps to estimate the amount of that delay, or the effect of that delay upon the Lake Shore or Erie railways?

A. Yes, sir, we have.

2174 Q. Have you personally?

A. We have made estimates of the business that is now being transacted there, and deduced from that what might happen in case we crossed there, and which we shall bring here.

Q. Had you done that when you located your crossing?

A. We had not done that as completely as we have
2175 at the present time, but we had to a certain extent. I would like to say here, in connection with this, in speaking of the length of time that is really occupied in crossing and re-crossing that track by the existing roads, that we have prepared, and will show here, a graphic description of the movement of trains at that point, that have actually taken place at certain times within the past few days, showing the passage of each and every car, and the length of time that existed between those cars, and the

time and per cent. that the crossing has really been 2176 occupied.

.Q. That is a recent matter?

A. That is a recent matter, but it had been entered into at the time of our crossing, to a certain extent, so far as to get an approximate idea of the length of time that was actually occupied by merely counting of the cars.

Q. Now, as a matter of danger, do you, as an engineer constructing a road, a main passenger line, too, 2177 consider it good engineering to prefer a grade-crossing of ten tracks in pretty active use at one point where switching is going on?

A. I think that that matter has been practically decided by the Lake Shore people at that very point.

Q. No; I am asking you now what you consider it. I want to see what your estimate there is of the obligation of your road to the public, and what your estimate 2178 of the danger is there?

A. There is undoubtedly danger at every grade-crossing, danger to life and limb, and danger to the rolling-stock of the companies that may be operating the crossing, and as a matter of danger, and to be looked upon in the light of saving life or property, it is objectionable at all times, but taking into consideration at this particular point a crossing which has been operated for some time by a through trunk line like the Lake 2179 Shore and Michigan Southern, they undoubtedly have all the means at their disposal, and they have used those means to modify, and protect people, passengers, and their property; and I can see no reasonable objection why the Lackawanna road should not, with the conveniences that are now at hand, make the same crossing.

Q. The crossing of the Lackawanna at this point is more aggravated than any crossing there is there to-day, is it not?

2180 A. It is with the existing position of tracks.

Q. It crosses more tracks, its trains will have to pass over more crossings than any trains at the present time have to cross?

A. With the tracks situated as they are, they do.

Q. You cannot, at such a place as this, take any other precautions against accident than those that are finally dependent upon the care and diligence of employees?

2181 A. Yes, sir, you can.

Q. Well, what can be done?

A. I say that you can ; as I understand this crossing, the right of way for whichever road may be crossing is first handled by the target man ; it depends upon him a muscular action on his part, to place the target, and it depends then from the target to the eye-sight of the engineer to understand the signal ; there are automatic arrangements, and they are in operation on other roads,
2182 where the eye-sight alone, or the only risk of color blindness is involved.

Q. Can you devise any automatic machine which will take in the situation from moment to moment there, and control that target? We have not here a system of electrical contrivances such as there are at Forty-second street, but I mean at this crossing?

A. There might be such an arrangement that will be safe ; it might cause delay, but it will be safe.

2183 Q. It finally has its dependence both with engineers on trains approaching, and men who have the target in case, on the faithfulness and diligence and care of those employees?

A. It depends on the eye-sight, the power of distinction on the part of the engineer only, the matter I am speaking of, the automatic process.

Q. There may be misunderstandings of signals?

A. There can be no misunderstanding of signals in 2184
this case, excepting by eye-sight.

Q. There is always the contingency of negligence
and a lack of care on the part of employees at such a
crossing?

A. There always has been.

Q. And there will at this crossing?

A. I think there probably will be.

Q. One of the most positive and certain factors in the
operation of a railroad is a certain amount of negligence 2185
and want of care on the part of its employees, resulting
in accidents?

A. No doubt negligence presents itself in the opera-
tion of crossings at times.

Q. Do you not think it is the main duty of engineer-
ing skill in building railroads at the present time, es-
pecially crossings of trunk lines where large passenger
business is done, to avoid arrangements even at a large
expense, which will place the lives of passengers in 2186
jeopardy?

A. Most certainly it should be done, but this case is
one in the city of Buffalo where connections with other
roads are expected to be made, and that, if we are up,
as you propose, placing us here, or if we should attempt
to cross at all places, points that would be reasonably
expected to form connection, it would very much delay
and add to the cost and expense in operating and inter- 2187
changing freight and passengers to these lines.

Q. Well, you can't transfer your passengers at that
point, can you, to any other railroad?

A. I cannot say what we may do.

Q. Do you say that you can, or from anything that
you may know, that you can transfer your passengers to
the Lake Shore Railroad at that point?

A. I haven't the faintest idea what might be done.

Q. Where is your passenger depot fixed for?

2188 A. Our general passenger depot, the city terminus, is fixed at Erie street, in no way connected with Exchange street.

Q. That is on this same street—Erie street?

A. Yes, sir; at the foot of this street.

Q. Are there any arrangements at present existing at the Lake Shore by which you could transfer your passenger business at that crossing?

A. There is nothing necessarily fixed by them.

2189 Q. There is nothing there to-day, is there?

A. There is nothing there to-day, but if we were at grade, it is not a difficult matter to see how we can place a *Y*, or rather a curve to the Lake Shore, and place it in a position that we could exchange passengers if we chose to do so.

Q. You could bring that line at other places to connect with it, could you not?

A. It might be that we could—possibly we could.

2190 Q. Then you wouldn't say that it is a proper thing to do, because you want to connect with a railroad; that therefore necessarily you must run your main line over all its tracks through a freight yard, would you call that good engineering, simply to get a connection?

A. Well, I believe it has been done in other cases.

2191 Q. I don't care whether it has been done or not, I am asking you whether you would consider it good engineering, simply to get connection with another railroad, to run your railroad across all its tracks and its freight yards?

A. It would depend entirely upon the position of its tracks.

Q. At this point?

A. At this point where a crossing is now in operation, and where a stop is necessary on the part of trains running there, I think a grade-crossing is preferable, as I said before, to an over-head crossing.

Q. I am speaking now solely with reference to that 2192
one point; if you call it good engineering at that point
simply to get an imaginary connection with the Lake
Shore road, or say, to get a connection with the Lake
Shore, to run your railroad across all their tracks, and
their freight yard?

A. I didn't say that that was the object of that grade-
crossing.

Q. You said that that was one of the reasons deter-
mining you to fix that a grade-crossing? 2193

A. Yes, sir; I said that a connection with the Michi-
gan Southern road could be made more easily and at less
expense crossing at grade, than it can to connect through
the means or by your proposed route.

Q. I dare say that is so, but I take this situation as it
is, and I ask you if it is good engineering to throw your
railroad at grade across the Lake Shore at that point,
simply to get a connection with it?

A. I don't say we throw it across that point simply 2194
to get connection.

Q. But I ask you if that would be good engineering?

A. Not for that particular reason, no; for that sole
reason, no.

Q. Then simply because there is a grade-crossing
there to-day, of the Lake Shore by the Erie for their ex-
change business, that would lead you to say that the ex-
istence of one grade-crossing makes the existence of sev- 2195
eral grade-crossings at the same point a matter of little
importance?

A. No, I don't say that.

Q. Then what does that reason that you give lead to
but that?

A. The way I expressed it, the matter of that cross-
ing being at that point, was one of the points which de-
termined the best position for placing a grade-crossing.

Q. If there was to be a grade-crossing?

2196 A. If there was to be a grade-crossing. We propose making and constructing a grade-crossing, you propose to carry us over. Now, if we are to have a grade-crossing, as I said before in my testimony, I believe that that would be the best place to place it.

Q. Because there is one stop there already?

A. For that very reason.

Q. The same applies to the proposed altered crossing. The same stopping would accomplish both. The matter
2197 of two hundred feet makes no difference on that point?

A. The nearer you could approach the crossing that exists the better it would be.

Q. The matter of two hundred feet there would make no difference on that point as requiring any more than that one stop. The same stop will do whether the crossing is where you put it, or where we suggest it.

A. It might do, probably it would.

Q. Well, what would you think is the number of
2198 railroads that should run at grade over that point—if one just divides two, where is the limit? You said that one of the reasons that led you to make that a crossing at grade was that there was already a grade-crossing. Now, then, when should we get to the end of that sort of thing?

A. It would depend altogether on what proposed coming there, and what it was proposed to do.

Q. Would that same argument be a good argument
2199 for another trunk line?

A. It does not necessarily hold good that another should cross there, and it does not necessarily hold good that another should not cross there.

Q. Then at what point does the present existence of a crossing give out, as a reason for more crossings?

A. I am considering the crossing of the Lackawanna, not what any other case might be.

Q. You think the point might be reached when the

existence of crossings would not be a good reason for 2200 other crossings?

A. Probably it would.

Q. There is no other crossing of a large number of these tracks there than your own crossing?

A. I believe that is all.

Q. So that on this track engines can move backwards and forwards now, without any reference to the target?

A. On those tracks, outside of the main line, they can move in that way. 2201

Q. Then, as to all the lines outside of the main lines, trains can move backwards and forwards to-day without any reference to target, which, the moment you come there, will have to stop for the target?

A. With the present arrangements of tracks they would.

Q. So that there is an amount of stopping there which comes in as an addition by your crossing that does not exist to-day? 2202

A. It would with the tracks in their present position.

Q. You think, yourself, do you not, that to carry on that business feasibly, that is, carried on there, a re-arrangement of the tracks and yards is necessary?

A. I think that they could be re-arranged to do the business.

Q. The yards and tracks with reference to the business that is done there now, and the crossing that is there, are they arranged in a way that would approve itself to your mind? 2203

A. I really know nothing of the arrangement of that yard.

Q. If you are going to re-arrange it you must know what you are going to re-arrange?

A. I am speaking of the arrangement of the yard.

Q. I mean all this part of the yard?

A. I know the number of cars, approximately, being

2204 moved, and in about what quantities they are moved, and from my knowledge of that I know, or rather think, that an arrangement could be made whereby the same number of cars and the same quantities could be handled and these crossings done away with; these extra crossings that we impose upon the Erie and the Lake Shore.

Q. You mean the crossings of the cars at this point?

A. In making up the trains.

Q. You have been there and have observed; are the
2205 yards arranged now in a way that is convenient for the transaction of the business of the Erie and Lake Shore railways under present conditions?

A. It seems to do their business.

Q. The presumption is that the engineers of the Lake Shore and the engineers of the Erie, with that matter under their charge for the last ten years, know somewhat more about it than anybody else?

A. Quite likely; probably they do.

2206 Q. And the presumption is that they have adopted as good arrangements as there are there for the transaction of their business; that would be the presumption?

A. That would be the presumption; yes.

Q. Then you think that the re-arrangement of the yard is something made necessary by the coming in of the Lackawanna crossing?

A. No; I can't say that I think it is made necessary.

2207 Q. You think the re-arrangement can be made to-day and benefit their business without any reference to the Lackawanna crossing?

A. I think it could be made so that they could carry on their business—what they are doing now.

Q. Without any reference to their business?

A. With reference to their business, yes, sir.

Q. I say without any reference to the Lackawanna crossing?

A. I think it could be arranged so that they could

do their business without reference to that crossing; so 2208 that they could do it fully as well; as I understand it, the trains are brought in from the West on the Lake Shore and Michigan Southern Railroad; I understand that they are brought in there, and that all the business that is to be sent to the Erie by way of the transfer-house, is brought back and forth over this crossing to be thrown into this house. Now, I can't see, as an engineer, why these trains, coming from this direction, cannot be operated from the north end, with the construc- 2209 tion of another transfer-house, and by doing so do away with the necessary switching that they now have to do over these crossings.

Q. Is there room from this north end?

A. There is room, I think, to swing, from say Fulton street, to a point parallel to the present; well, connecting with the Erie road and their transfer track.

Q. The Erie road where Elk street crosses it?

A. Not connecting with it where Elk street crosses 2210 it, but running parallel with the Erie road and constructing their transfer-house at a point somewhere between Fulton street and the street north of it.

Q. Is that the re-arrangement?

A. I am speaking of this switching that is being done; disposing of a portion of that switching that is now being done back and forth over this crossing into the transfer-house; it would obviate that portion of the 2211 work that they now do over that crossing.

By Com. Clark: Q. Would that obviate the work of selecting cars and making up trains they speak of?

A. No, sir; it would not obviate that portion, but it would obviate the throwing these trains back and forth in order to get the freight into that transfer-house, which is very considerable.

Q. That is all it would obviate?

A. It would obviate that operation, I think.

2212 Q. That would involve the giving up of this transfer-house?

A. Not necessarily; they could run out here and switch into that or alongside of it; that was simply one proposition—that they might build a transfer-house where I said—but they might run out here and run back into this same house; I see no great physical difficulty about tearing that out.

2213 Q. A good deal of land, around here, then, that is not owned—as it appears by this map—by these railway companies, would have to be acquired for that purpose?

A. Not such a very great deal—so much as is necessary.

Q. This triangle would have to be acquired, would it not?

A. A portion probably would.

2214 Q. If you were going to run a track through that way, you have got to buy the whole of that triangle, have you not—switching tracks, etc.?

A. You might have to buy it; the question is whether that ground could not be made available.

Q. Then you would have to purchase part of this property lying between Fulton street and Elk street—whatever that distance is—north of Van Rensselaer street?

A. Yes, sir.

2215 Q. Then you would have to block up the Abbott road for that switching, would you not?

A. They might swing outside of the Abbott road.

Q. If you were going to do that you would have to do your switching on Elk street?

A. Yes, sir; you would have to use Elk street—occupy a portion of it—crossing it.

Q. You would have to cross it in a particular longitudinal sort of way?

A. Very nearly parallel with it; portions of it in the

street; I say it could be operated in that way; how convenient that operation would be I can't say. 2216

Q. Could it be as well operated in that way as it is operated under the present system?

A. No, I don't think that it could, unless the delays caused at the crossing would take up more time than the extra switching would take on the proposed route.

Q. Your arrangement would require more switching to be done?

A. No, I don't know as it would require more switching to be done; it would require moving over a greater length of rail. 2217

Q. Taking the profile of your line as it is, and taking the profile of this proposed alteration, and where does it strike your grade?

A. I cannot tell you, because you have nothing on the projected grade line in elevations to fix it.

Q. Scale it?

A. Oh, scaling don't amount to anything, I don't know the elevation of our grade. 2218

Q. From what you gave us you know enough to state that the grade of the altered route strikes your present grade before it reaches Louisiana street?

A. Yes, sir, it does; that is, coming from the east, calculating from the east, it would strike us before we reach Louisiana street.

Q. Is there any engineering obstacle in the way of running right into your grade at that point? 2219

A. No, sir, none whatever.

Q. So that if you are carried past your grade and into the earth it is an egregious blunder—it is a blunder of some kind, is it not?

A. I can't say it is a blunder; this is supposed to be the profile that you have filed for us, the proposed route.

Q. You would call it a mistake?

A. I can't say that it was a mistake; no, sir, I can't.

2220 Q. Can you see any reason for it?

A. I can see no reason for it.

Q. And it is perfectly feasible easterly of Louisiana street, to take the altered line right into the grade of your proposed line?

A. Perfectly feasible.

Q. If our grade was to intersect your located grade, it would intersect it at station 150, that is how far from station 140?

2221 A. Two hundred and forty feet east of station 150.

Q. That, approximately, is where the two grades intersect?

A. Approximately, yes, sir.

Q. Now, assuming that you go from there, from the intersection of that grade, to the Ohio Basin Slip, the Ohio Slip, then you would go on the grade of your located line—it would be same as you have to-day?

A. Yes, sir.

2222 Q. And what is that grade?

A. The grade as located is four feet and fifteen one-hundreths per mile.

Q. Now, do you know where you are going to cross the Ohio Basin Slip, yet?

A. We know now the position as fixed by the division engineer of the canal, which has been fixed as I stated before——

2223 Q. Has it been fixed?

A. It has been fixed, yes, sir.

Q. What is that elevation?

A. I could not tell you, sitting here.

By Com. Clark: Q. How is it fixed, by filing some specification?

A. Yes, sir; he has made a report on the matter, and given us marks and points to work from.

By counsel, resuming: Q. How much does he alter

your proposed line going over there, has he fixed it? 2224

A. Yes, sir, he has fixed that point.

Q. Does that alter all your grades there, the point he has fixed?

A. It alters our grades to our crossing.

Q. Has he put you higher in the air there than your located line shows?

A. He has.

Q. How many feet?

A. I can't say.

2225

Q. Approximately, don't you know?

A. I don't know.

Q. How does it affect the grade?

A. It increases the grade, depending on how far back we carry it.

Q. Supposing you start out your grade from where you do now, or near Louisiana street, what will it be?

A. I can't say, because I don't know the position of the point fixed by the State engineer. 2226

Q. You have a pretty good idea of what point he has fixed for you to go over that slip?

A. If I did I would state it.

Q. Don't you know how many feet he has changed you?

A. I don't know.

By Com. McAlpine: Q. Is there a bridge across the Ohio Slip at that place, now? 2227

A. Not at that place.

Q. Is there one near there?

A. Yes, sir.

Q. Do you know the elevation of it?

A. No, sir.

By counsel, resuming: Q. You can't state at what point or what elevation you are to cross the Ohio Slip?

A. No, sir; if I could I should have done so.

2228 Q. But you know that it is so changed that you have to steepen your grades on each side of it?

A. Slightly, as I remember it.

Q. But you can't tell how much you are going to steepen your grade until you go there, where you are going to run it out. Now, can you run that grade out, or is it likely that you will run that grade out east of this point where our proposed line or proposed grade intersects your proposed line?

2229 A. We may.

Q. What is the probability of it?

A. Probably we will.

Q. How much east of that?

A. Oh, a very short distance perhaps; I can't say really.

Q. Will you figure that up for us?

A. Yes.

2230 Q. Will you take the engineer's elevation, the superintendent of public works, whatever it is, his elevation, and run out your grade, and let us know what that will be, and where you will affect that here?

A. I will do so if it is wished.

Q. I should like you to do it. Now, how do you go on past that Ohio Basin slip—it is pretty near that that you strike Ohio street, is it not?

A. You strike Ohio street, I can't say how far from that without a map.

2231 A. About eleven or twelve hundred feet before we strike Ohio street; about a quarter of a mile.

Q. How far is it from Louisiana street before these two grades strike each other, the altered grade and the other grade, to the Ohio Basin slip?

A. Six hundred feet.

Q. Now, how far is it from the Ohio Basin slip to your crossing of the New York Central and Hudson River Railroad at Ohio street?

A. About one thousand five hundred feet—fourteen 2232 or fifteen hundred.

Q. And your grade from the Ohio Basin slip to the crossing of the New York Central is somewhere about five feet to the mile?

A. About five feet to the mile.

Q. Which way does that grade run?

A. It is an up-grade going east from the New York Central crossing to the Ohio Basin slip.

Q. What is your base line? 2233

A. Our base line is seven feet below the water level of the canal at Ohio basin.

Q. Do you know that you have had negotiations with the New York Central in regard to their crossing at Ohio street?

A. No, sir, I don't.

Q. Don't you know that it has been agreed between the New York Central and your road at the crossing of the New York Central at Ohio street that you shall go 2234 over-head there?

A. No, sir, I don't.

Q. You don't know that that has been done?

A. I don't know that it has been consummated; I know it has been talked of.

Q. If it has been consummated, that again alters all your grades there, doesn't it?

A. It would alter the grade of the crossings or the 2235 approaches of the New York Central at Ohio street.

Q. It would alter the grade all the way from the Ohio slip, wouldn't it?

A. I don't know but it would; I say I don't know but it would; our crossing of the Ohio Basin slip might be raised, and the grade run out to a point beyond, making an easier approach; I don't know that it would be.

Q. If you cross the New York Central tracks at Ohio

2236 street sixteen feet in the clear, where will that take your grade to in the direction of the Ohio Basin slip?

A. It might take our grade five thousand feet, and it might take it three thousand; I can't say what grade has been fixed upon.

Q. But if you have taken there sixteen feet clear at Ohio street, your grade will be altered over at least from three to five thousand feet?

2237 A. It is possible that it may; I don't know anything about this arrangement, what has been talked over or what has not.

Q. Don't you know that that proposition has been made by your company to cross the New York Central tracks at that point, in the manner that I have stated?

2238 A. All I know of the matter is that last evening Mr. Archibald spoke to me and asked me to walk with him over a portion of this property between the New York Central crossing and Ohio Basin slip towards Main street; how far the negotiations have been carried, or what the proposition was, I know nothing about.

Q. But you know the fact that negotiations are pending there to obviate a grade-crossing of the Central track?

A. I understand from Mr. Archibald only that Mr. Tillinghast had talked some with him concerning an over-head crossing; that is just the extent of it, and all.

2239 Q. Have you got the details of your estimate of \$490,000?

A. I have the details of that approximate estimate, yes, sir.

Q. Can you give them to us?

A. Yes, sir. (Witness produces a paper.) That is an approximate estimate over and above the cost of construction of these two lines as proposed by the New York, Lackawanna and Western.

Q. You have included here a bridge over the Buf- 2240
falo River, have you not?

A. No, sir.

Mr. Milburn offered in evidence the paper referred to,
received and marked "Exhibit No. 7."

Q. By the simple device where our proposed line
strikes the grade of your line, continuing from that point
on the grade of your own line, you obviate this grade of
125 feet to the mile, which you spoke of in your direct
testimony? 2241

A. Yes, sir.

Q. Now, you said, to take them both as over-head
crossings, the location of your route was far superior to
the location of our route, our alteration; now, will you
state wherein it is superior?

A. Why, it does away with the curvatures which we
now have as proposed by you.

Q. Does away with just what curves?

A. It does away with those reverse curves as shown 2242
by your location, and does away with the seven-degree
curve also shown by your location, instead of a 2.42 as
shown by the Lackawanna, you have two three-degree
curves on a reverse where we have a straight line.

Q. Those reasons are really in the approaches to the
crossing, not in the crossing itself?

A. In speaking of the crossing, why one over-head
line should be preferred to another, you have got to take 2243
more than a mere crossing into consideration.

Q. Do you see anything at the point of crossing the
tracks for your opinion, that your is the superior point of
crossing to the proposed alteration?

A. I think that we could do away with some bridg-
ing.

Q. It will require less bridging?

A. It will require less bridging upon the line of as
proposed by the Lackawanna.

2244 Q. Will it require longer or shorter spans?

A. Well, taking it in my own view, I should say it would be fully as short.

Q. Would it take shorter spans on your location than on ours?

A. We could get along with as short spans on our location as on the proposed change.

Q. But to do that, how about interference with this territory of the piers, and abutments, etc., as compared
2245 with our location?

A. That is a matter depending on how much you might say you need of the space underneath.

Q. Supposing we need it all, how about the interference?

A. If you need it all in both cases?

Q. Yes, but there you take that situation just as it is, as you know it, and how about the interference of the piers on your location as compared with the interference
2246 of the piers on our location?

A. I think we could use spans quite as short as those.

Q. But would it not throw your piers at a point where they are less desirable in reference to the interests of the Lake Shore and the Erie than they are on our proposed location?

A. I can't judge what you might think was necessary at that point under our projected line, for the extension of your tracks, that is a matter that rests entirely with
2247 persons operating their own road.

Q. What is the greatest grade on your road?

A. I only know from hearsay.

Q. Do you know from maps?

A. Only from hearsay, from talk, verbal expressions.

Q. So far as you know what is your greatest curve?

A. I think a 5.30, as I remember it, is a 5.30 curve, five degree, thirty-minute curve at either the crossing of

the Niagara Falls branch of the Erie or Central road 2248 north of the city.

Q. Have you any reverse curve?

A. No, sir, we have no reverse curve on this division.

Q. What is the radius of a 5.30 curve?

A. 1500 feet; no, about 1100 feet.

Q. What is that curve marked on your map; it is a 58-degree curved marked on your map, is it not?

A. That is what it shows there on the map.

Q. So that if we go by your map, we have got a 58- 2249 degree curve there?

A. Yes, sir, still I admit my testimony just the same, as being 530, the maximum curve.

Q. Then the 58-degree curve that your map shows, is one of the points where the Lackawanna engineer got a little astray?

A. Yes, sir, the "5" is probably right; the minutes or the hundredths, probably a mistake has been made in. 2250

Q. A three-degree curve is considered by railroad men a slight curve?

A. Oh, it is considered a moderate degree of curvature.

Q. Is it not considered a small curve?

A. Moderate.

Q. A slight curve?

A. It is one in use.

Q. It is one in frequent enough use, is it not? 2251

A. It certainly is used in railroad construction.

Q. In a yard wherever one track crosses into another track, have you a reverse curve?

A. Not necessarily.

Q. Wherever one parallel track crosses into another parallel track, does that form a reverse curve?

A. Not necessarily.

Q. What does it form?

2252 A. It can form a curve in two directions with a tangent between.

Q. How long is the tangent?

A. That depends on the angle at the frog opening.

Q. To get away from technical distinctions, is it not as ordinarily built, and is it not practically a reverse curve?

A. It is.

Q. So that when you say that your line is better than this line, so far as its alignment is concerned, you are
2253 speaking with simple reference to the fact that in one there is a curve, and the other is straight?

A. There is a seven-degree curve in one, which is a fairly sharp curve, one that is not used except in very difficult locations.

Q. Your line "A," crosses the Buffalo Creek Railroad at grade, doesn't it?

A. Yes, sir.

Q. Now, will you tell us what is the reason of laying
2254 out line "A" and line "B"?

A. I suppose that is a direct question. The intent of line "B"—one intent of line "B," is that of a main line, a main passenger or freight line into the city, the short-cut to the city, we expect, and have arranged for the purchase of property on the main line between the Lake Shore and what is known as the Abbott road, sufficient for a yard. As we have coal docks at the foot of Erie
2255 street, the Lackawanna road we expect to connect with these coal docks. In operating the road it has been suggested that it would be necessary to have this property that I speak of between the Lake Shore and the Abbott road. To get that property without empties, instead of moving over this line "B" to the Buffalo and Philadelphia road and back again to this property with the empties, or coming there with empty freights that may be needed at the elevators, empty box cars for storing grain, or carrying of grain, we have placed

this line to make a short cut to that yard.' That is one 2256
of the reasons entering into the location and filing of
these two lines.

Q. Then your main line for passengers and freight
does not pass over this reverse curve and this grade of
forty-two feet to the mile?

A. I omitted to say, on the start, in connection with
this, that this line "B" may be abandoned, it may be
abandoned.

Q. Or line "A," which is the most likely to be 2257
abandoned?

A. I can't say; it is a matter laying with the officers
of the company.

Q. That one of those roads is likely to be abandoned?

A. That one of those roads may be abandoned; I
don't say it is likely.

Q. But under this statement that you made to us,
your main passenger and your main freight business does
not pass over this reverse curve and this grade of forty- 2258
two feet that we have been talking about?

A. I can't answer it in that way.

Q. What I say is, on this description that you give
us of line "B" as being intended for the passage of your
main freight and main passenger business, and that this
line was set out here so that you could bring and take
away your empties in reference to your coal docks, un-
der that condition of things, your main freight and main 2259
passenger business does not pass over this reverse curve,
nor up this forty-two degree grade?

A. I stated that that was the intention of locating
this line, that this should be the short cut to the city for
their passenger and coal trade, but that it may be aban-
doned, it depends entirely on circumstances that I have
no right to mention here in connection with this.

Q. It may be abandoned?

A. It may be abandoned.

2260 Q. Line "A" may be abandoned, and it is likely, as a matter of engineering, that the best line will be preserved for your through business?

A. As a matter of engineering, the shortest line between two points would be most likely to be preserved, but as a matter of business, that the company may have in view, line "B" may be abandoned.

Q. Can you not put in lands that you may get here switched out without having a direct line through there?

2261 A. That line has been located.

Q. That is all the account that you can give?

A. That is all the account that I am at liberty to mention. I think I have given it, stating the intent as expressed to me, in part.

Q. Will you explain how you can make a connection with the Lake Shore at that crossing, without crossing the Buffalo River? You said that one of the reasons in determining you in making a grade-crossing there, was
2262 to get connection with the Lake Shore?

A. A connection can be made.

Q. Where?

A. It may be made before you get to the river from line "B." A connection can be made before reaching that bridge, I believe.

Q. Have you ever taken any measurements to see whether such a connection could be made, or not?

A. Only if handled on our located map, but I believe
2263 it is possible that the connection can be made. I have made connections with other roads, with curvatures greater than will be imposed on the connection at this point and in that way.

Q. What will be the curvature here?

A. Nine or ten, perhaps eleven feet.

Q. Wouldn't it be as short a curve as that indicated on the map here, getting down to the Hudson and Delaware Coal Company's docks?

A. I cannot say.

2264

Q. From the appearance on the map?

A. I cannot say anything about that map.

Q. Take it as it appears on this map, wouldn't it be as sharp a curve as that one there, wouldn't it be a sharper curve than that one there, coming down from the Erie?

A. It might be, something that way, an eleven-degree curve could be operated there and run over without any trouble there; we put a twelve-degree curve on the 2265
B. H. & T. on which the solid locomotives run over with heavy trains of cars.

Q. From what point would you say, on line "B," you would project that curve?

A. I cannot say from this map where it would be. That map is on too small a scale to determine precisely anything about the relation of lines with each other.

Q. The projection that you have made would lead to a crossing with your line *A*? 2266

A. If built, I might say in connection with this also what I had—the connection can be made from the opposite side with the Lake Shore.

Q. That would all have to cross the Erie, wouldn't it then?

A. Their tracks extending down here, it probably would, there are several cases the connection can be made.

Q. If line *B* were abandoned, which will make this connection then with the Lake Shore road from line *A* without crossing the Buffalo River? 2267

A. It might be, it is possible.

Q. Will you indicate on that map how it could be done?

A. Without crossing the Buffalo River?

Q. That is what I said?

A. It could be located in that way.

2268 Q. Then you would have to cross line A in doing it?

A. Yes, sir; I have drawn two lines there. We might connect with a direct connection, or we might cross our own line.

Q. When were these lines located, the Lackawanna lines, about?

A. Some time in the early part of April, I think.

Q. Previous to that time were any measurements taken to ascertain whether these connections could be
2269 made or not, to your knowledge?

A. Not to my knowledge.

Q. How many lines were run by the Lackawanna Company before this line was adopted?

A. There was only one line run on the ground; there were projections made—there were no physical features other than those that have been constructed by the laying of tracks. The line was projected in the office several times and located very carefully.

2270 Q. At what other point did you project a line in crossing there?

A. Well, the point of direct crossing of the tracks, I think, varied very little in any line.

Q. I show you map number three. If your road crosses the Lake Shore as proposed, it will be necessary to move the switches on the tracks running to the transfer-house, would it not?

2271 A. It would be necessary to move one switch.

Q. On two of the tracks running to the transfer-house, wouldn't it?

A. It might be necessary to move—if this is shown as it actually is.

Q. It has been testified that this shows the exact location of the switches and frogs?

A. It might be necessary to move one; I don't know as it would, I don't know that it would.

Q. If this is on a scale of fifty feet to the inch, 2272 wouldn't it be absolutely necessary?

A. I think that the switch that I had reference to might be retained; possibly this frog would have to be carried a little further back; that one frog on the Hart track might be carried further in reference to making some sharper curve to get back onto the low grain track as it is here marked, making the run a little longer throwing the tracks forming the switch a little further back.

Q. How would it be at the main line at those switches? 2273

A. As it stands now—well, I can say in connection with this, they had been altered materially since the line was projected.

Q. I didn't ask that; I said as they are indicated on that map, wouldn't it be necessary to change those?

A. They would have to be moved south and north, one switch either way.

Q. Did you take any elevations at that point when this line was located? 2274

A. At which point?

Q. At the point of crossing by your route?

A. Yes, sir.

Q. Did you take any elevations with a view of determining at what point an over-head crossing could be made?

A. The same elevations taken for one would answer for the other, at that point.

Q. Did you take any to determine that? 2275

A. We took elevations for both.

By Mr. Milburn: Q. In connection with the estimates, what experience have you had in bridge building?

A. In the construction of bridges, I have built a few.

Q. Iron bridges?

A. No, sir; no iron bridges.

Q. Iron trestle-work?

2276 A. Not to construct it, no, sir; that is a matter that is out of the province of engineers at this present day.

Q. How many over-head crossings have you laid out yourselves in the city of Buffalo, of railroads?

A. We have laid out three, I believe.

Q. Three or four, which?

A. Oh, yes, four; I will change that.

Q. What reasons suggested themselves to you to put over-head crossings at those places, that did not exist for
2277 an over-head crossing of the Lake Shore?

A. The crossing of the main line of the New York, Lake Erie and Western at the intersection of William street and their road, was favored in one respect by the natural position of the country, the natural position of the ground.

Q. Is it not a perfectly level country all along there?

A. No, sir, it is not; one approach to that crossing is favored by the natural position of the ground, and in
2278 crossing the New York Central, their main line, our grade was materially decreased by making such crossing. The grade of crossing the Niagara Falls branch of the Erie Railway, to keep it within our limits of thirty feet, caused the manner of the crossing at that point in the manner in which we have filed it, the crossing of the Niagara Falls branch of the New York Central was induced partly by their standing cars on the sidings, on a
2279 siding that they have at that place; standing them there almost continuously. That was a portion, one item entering into the reason of the crossing.

Q. The main item?

A. No, sir.

Q. What was the main item?

A. We thought it advisable to cross over-head.

Q. Why did you think it advisable to cross over-head at that point?

A. The company considered it so; I was instructed 2280
to lay it out as such.

Q. The one you can remember is that on one of their
side-tracks they stand cars a good deal?

A. They do stand cars on that side-track almost
continually.

Q. Therefore, to obviate interfering with that side-
track, an over-head crossing was a desirable thing?

A. I said that that entered into it a little; the main
reason was that the directions of the company were to 2281
cross at that point over-head.

Q. Can you tell us if those are accurate transcripts
of your profile at all these points of crossing? (Presents
copy of profile to witness.)

A. I can only do it by comparison.

Q. Will you say that that is a correct tracing of your
profile at those crossings?

A. I won't say it is correct unless I examine it and 2282
compare it; I can't tell without an examination.

Re-direct examination, by Mr. Locke:

Q. At how many places do you come in contact with
the Lake Shore road?

A. We come in contact with it with our filed line in
two points.

Q. What two points?

A. One south of the crossing of the Buffalo Creek 2283
and Michigan Southern, and the other at the point in
question.

Q. Now, then, in order to connect with them at the
other point of contact, you would have to cross the
Buffalo, Pittsburgh and Western Line that is projected,
and you would have to pass the Buffalo and Southwest-
ern tracks?

A. Yes, sir.

Q. And there is a proceeding pending; instituted by

2284 the New York, Lake Erie and Western, as lessees of the Buffalo and Southwestern, to make the Lackawanna cross over-head there, is there not ?

A. So I understand it.

Q. So that here is a proceeding pending at every point of contact with the Lake Shore road to throw you over-head ?

A. Yes, sir.

Q. This Lackawanna road, the New York, Lacka-
2285 wanna and Western extends from Buffalo to Bingham-
ton ?

A. I believe so.

Q. And their connects with what ?

A. The Delaware, Lackawanna and Western.

Q. And you thereby form, it is hoped, a trunk line ?

A. Yes, sir.

Q. That is the expectation ?

A. That is the intention of the company.

2286 Q. Between Buffalo and the sea-board, the sea-board
and the lakes ?

A. Yes, sir.

Q. The Lake Shore and Michigan Southern Railroad
Company extends from Chicago to Buffalo ?

A. I believe so.

Q. And is the Western Trunk Line from this point ?

A. Yes, sir.

2287 Q. Do you know the situation of the Delaware and
Hudson Railroad from Albany north ?

A. I know it as far north as Saratoga.

Q. And are you acquainted with its location in
Albany ?

A. Somewhat.

Q. Do you know how many times it is crossed by the
New York Central at grade ?

A. I don't know how many times ; as I remember it
now, they cross the tracks of the New York Central out

quite a number of times; crossing the tracks leading to 2288 their freight-house.

Q. Are crossed by the Delaware and Hudson Railroad Company, are they not?

A. I don't know that all of them are, I know quite a number of them are.

Q. How much of a grade is involved by your crossing of the New York Central tracks below the International Bridge?

A. Thirty feet to the mile is our maximum grade. 2289

Q. And you make that crossing without interfering with that grade?

A. Yes, sir.

By Mr. McMillan: Q. This estimate that you have made is on the basis of making your crossing on an embankment, is it not?

A. Yes, sir.

Q. On which profile do you figure it, upon the one attached to the map or upon the substituted one? 2290

A. On the map that was served on us.

Q. You made no estimate upon the other one, did you?

A. None whatever.

Q. In your summary here I see you make one item marked "excavation," you use that word interchangeably with embankment, do you?

A. Yes, sir.

Q. You figure here forty cents per yard for excavation? 2291

A. Yes, sir.

Q. How do you make up that forty cents?

A. We make it up by the actual excavation, and carrying material from a point perhaps some thirty miles distant, something of that kind.

Q. How much do you figure for loading?

A. That is about eight cents a yard; no, I am wrong

2292 about that, I can't give those items now; I have the detail, and if you wish to cross-examine me on them, I will present them; this is a summary of the entire matter.

Q. I simply wanted to get at it with a view of analyzing this estimate during the interim, this is your estimate?

A. That is my estimate, yes, sir.

Q. You made the computations?

A. I made the computations.

2293 Q. Can't you tell how much you figure for dumping?

A. I can't tell now because this estimate was prepared immediately after receiving your service, and since then I have done considerable work, and it has escaped my memory.

Q. What is the usual price allowed for dumping?

A. It is not usually figured that way, it is usually figured for so much material delivered, taken up and put in position.

2294 Q. But in order to make up the sum to be paid to get it in position you have to take all these elements into consideration, do you not?

A. Not necessarily, not in letting work, it is a matter of so much per yard for material delivered from a certain point in the work, that is the usual way of accepting a bid.

Q. You figure this to be hauled a distance of thirty miles, do you?

2295 A. Something of the kind, it may be forty, I won't say that it is thirty.

Q. You figure this timber at forty-five dollars per thousand?

A. In the structure complete.

Q. What kind of timber is that?

A. That is, I think, white pine, I am not positive now.

Q. What sum do you allow in that estimate for the pine, and how much for the framing?

A. I say that is the price of timber in the trestle 2296 complete; this is supposed to be a pile trestle, there is no framing except the framing of the cap or the mortising and tenanting of the cap and pile.

Q. How much do you allow for that in this estimate?

A. That is the figure, forty-five dollars is the figure that I have taken from work that we have let on the present line of the same character.

Q. I understand you that it is solely for piling purposes, this timber? 2297

A. No, sir, not entirely.

Q. Then is it for trestles to be filled up?

A. Yes, sir.

Q. For how many tracks have you computed this?

A. Double track.

Q. Is it necessary to have a double trestle in order to do this filling?

A. It is necessary to operate our road.

Q. No, but I mean for the purpose of erecting this embankment is it necessary to have a double trestle, can you not erect one trestle and then fill in from there? 2298

A. We can't in this case.

Q. Why not?

A. Because we propose to operate our road and do the filling in the meantime, if this over-head crossing is imposed upon us we propose to operate it if we can.

Q. If this is to be filled up would you use white pine for the purpose of those temporary trestles? 2299

A. I could.

Q. Would you?

A. I have.

Q. Would you in this instance?

A. Well, I will see what I have used, I think it is white pine for stringers.

Q. Would not hemlock do as well?

A. Hemlock can be used.

2300 Q. That would be worth about eight dollars a thousand?

A. I don't know the price of hemlock.

Q. If it can be purchased for eight dollars a thousand, you would use it in preference to white pine for this purpose?

A. No, sir, not for a through line for a road, and a trestle that was expected to stand for some years I would not.

2301 Q. But you propose this to be a trestle to be filled in?

A. Filled in while we are operating our road at any time.

Q. Then you have not only computed here for a trestle but an embankment?

A. An embankment necessitated to have a permanent trestle, the natural life of a trestle would be perhaps seven or eight years, then it is to be filled.

2302 Q. I ask you if you do not in this computation compute for a trestle and an embankment?

A. Why, certainly.

By Com. McAlpine: Q. Would the building of a trestle cheapen the cost of an embankment, the subsequent filling, any?

A. Yes, sir, it would reduce the price, but that price has been placed upon it with a view of the trestle being there.

2303 By counsel, resuming: Q. You say then, that this filling of this embankment would probably not be perfected for seven or eight years?

A. No, sir, I do not; it might be perfected earlier; I said it would be filled in at the leisure of the company.

Q. I understood you to say at least extending over a period of seven or eight years?

A. I said the natural life of a trestle was seven or eight years.

Q. You didn't make any estimate on an iron trestle?

A. No, sir, I made no estimate on an iron trestle. 2304

Q. You include in this the excavation and masonry on line *B*?

A. Yes, sir.

Q. If that line is abandoned, that item of \$66,745 might be taken out?

A. It might be taken out; yes, sir.

Q. If line *A* is abandoned and line *B* put through, how much would you take out of this estimate?

A. About sixty-six thousand, something of the kind; if 2305 line *B* is there and line *A* abandoned, then there would be a saving of about four hundred and twenty thousand dollars.

By Mr. Locke: Q. And the road would stop way down by the Abbott road?

A. Yes, sir; in speaking of lines *A* and *B* I speak in reference to the portions of lines *A* and *B* placed on record here by the petitioners' map.

By Mr. McMillan, resuming: Q. If line *A* between 2306 your main line and the Lake Shore Railway track is abandoned, how much will that reduce your estimate?

A. I don't know, I cannot say what that would reduce it; I misunderstood the question.

Q. Can you tell by looking at your estimate?

A. No, sir, it is made up as a whole with reference to your proposed changes.

Q. And if line *A* is put through and line *B* is 2307 abandoned, then that reduces it about sixty-six thousand dollars?

A. Yes, sir, that reduces it about sixty-six thousand dollars.

Q. What kind of piling do you use—timber—what material?

A. Spruce, I believe.

Q. What length?

A. Oh, that depends entirely upon the height of the

2308 proposed sub-grade line at different points along the line.

Q. But you had that in your mind—at what length do you figure them?

A. I figure them exactly as they are needed in the construction; you cannot take an average length in a line of broken grade like this.

Q. Do you make a pile trestle, or a frame trestle?

A. A pile trestle.

2309 By Com. Clark: Q. You figure it according to their profile?

A. In accordance with their profile.

By Com. McAlpine: Q. How much penetration of pile into the ground did you anticipate would be necessary?

A. Twelve feet, I believe.

2310 JAMES ARCHABALD, sworn for the respondent, and examined by Mr. Locke, testified as follows:

Q. Where do you reside?

A. Scranton, Penn.

Q. What is your business?

A. I am a civil engineer.

Q. How long have you been a civil engineer?

A. Twenty-one or two years.

Q. Where were you educated?

2311 A. Union College.

Q. Give us a little information in regard to your experience as an engineer?

A. I have been connected with the Delaware, Lackawanna and Western and its interests for twenty-one years.

Q. What important works have you had to do with in connection with that company?

A. Built their branches and improvements around Hoboken, etc.

Q. Have you had anything to do with the construction of their tunnel? 2312

A. Yes, sir.

Q. Did you have charge of a portion of that work?

A. I had charge of all of it, sir; we spent nearly three millions of dollars for four or five miles of road.

Q. What is your occupation at present?

A. Chief engineer of the Lackawanna and Western Road.

Q. That company is engaged in building a road from Binghamton to Buffalo? 2313

A. Yes, sir.

Q. With what does it connect at Binghamton?

A. Delaware, Lackawanna and Western road.

Q. How far has your work progressed now?

A. We have got track laid about ten miles from Binghamton, a double track—eight miles from Binghamton.

Q. How far have you done grading? 2314

A. In spots all the way to Buffalo; the Susquehanna division is nearly graded.

Q. Where does the Susquehanna division extend to?

A. From Binghamton to about seven miles east of Elmira.

Q. What distance is that?

A. It is about forty-nine miles and something.

Q. Did you have anything to do with the location of your route in Buffalo? 2315

A. Yes, sir.

Q. Did you go upon these premises at Sandusky street before the location of the line?

A. Yes, sir.

Q. What examinations did you make as to the point where you could cross the Lake Shore road?

A. I examined the ground very closely.

Q. What point did you select?

- 2316 A. The point where our located line crosses the point.
 Q. Why did you locate it there?
 A. It interfered least with the business of the Erie and Lake Shore than any point I could find.
 Q. As well as your own expected business?
 A. As well as our own expected business.
 Q. Did you learn about the stoppage of trains there?
 A. Yes, sir; I observed that and made inquiries relative to it.
- 2317 Q. Did that have anything to do with your decision?
 A. Yes, sir; it was a very important point with me.
 Q. How much is the Lake Shore rail elevated above the surface of the surrounding land?
 A. I should think eight or ten feet.
 Q. You have examined the map served with the petition in these proceedings?
 A. Yes, sir.
- 2318 Q. Showing the proposed alteration of your line?
 A. Yes, sir.
 Q. Have you had any experience as engineer of the Lackawanna, in the practical operation of a railroad?
 A. Only from observation.
 Q. You don't mean that you have taken and run a train, but you have been in constant connection with the men operating the road as any man connected with the railroad, for a good many years?
- 2319 A. Yes, sir.
 Q. I suppose there are objections to grade-crossings?
 A. Yes, sir.
 Q. Are these objections insuperable?
 A. No, sir.
 Q. Have you had grade-crossings upon the Delaware, Lackawanna and Western?
 A. Yes, sir.
 Q. How many?
 A. We have five or six.

Q. Have you any crossings through a yard? 2320

A. Yes, sir.

Q. Describe it?

A. With the Hudson, a connecting road, connecting with the Pennsylvania road at Jersey city, a yard of six tracks, when we crossed it we ran our double track through that twice, making two double-track crossings, probably about two hundred and fifty to three hundred feet apart.

By Mr. Milburn: Q. Where is that? 2321

A. At the Bergen junction, very near the mouth of the Erie tunnel, just south of the Erie tunnel, connecting the Mt. Clair road and the Midland Railroad of New Jersey, and the Pennsylvania road.

Q. Does all your Dnlaware, Lackawanna and Western coal go across that crossing?

A. No, sir; but all going to tide-water goes over that crossing.

Q. Do your passenger trains go over it? 2322

A. Yes, sir.

Q. How many?

A. Fifty-six Morris and Essex trains, and twenty of the Midland Railroad of New Jersey, according to the time card now.

Q. Will you state the reason if there be any, why in your judgment one of the lines of this crossing over the Lake Shore is better than the other, which of the crossings over the Lake Shore is the better? 2323

A. The straight line, the located line.

Q. Give your reasons why it is preferable to the other?

A. It is perfectly straight and it is nearer the line of the Erie crossing; we have the Leigh Valley and Pennsylvania and New York Railroad which crosses the L. & B. Railroad, at Pittston, right in the lower end of the Pittston yard.

2324 Q. Are these roads in active operation?

A. Yes, sir; they do a large business both in coal and freight.

Q. What crossing is that?

A. The Pennsylvania and New York Railroad Co.; the Lehigh Valley crossing the D., L. & W., right at Pittston station.

Q. In the yards?

A. At the south end of the L. and B. yard, and at
2325 the south end of the other road, the yard end at this junction.

Q. Is Pittston in Pennsylvania?

A. Yes, sir.

Q. Has the proposed route in this case, in your judgment, any advantages over the altered route, provided both were to be graded crossings?

A. No, sir, I see none.

Q. Has the altered route any advantages over the
2326 proposed route, if both were to be over-head crossings?

A. I see none.

Q. State whether, in your judgment, changes could be made in the tracks down there which would accommodate the business of both companies?

A. I see necessity of only very small—I don't think there is any necessity of much changes to accommodate the business of both roads.

Q. Any changes that were necessary could be made?
2327

A. They would be small, changing switches in the crossing.

Q. You have heard the testimony in regard to the use of those roads?

A. Yes, sir.

Q. Would it be possible for the Lackawanna Road to make any connection, freight or passenger connection, with the Lake Shore Road at this point, provided it were compelled to make an over-head crossing?

A. It is possible; but not nearly as feasible. 2328

By Mr. McAlpine: Q. It is only possible by building an independent track for that purpose?

A. Yes, sir.

By Mr. Locke, resuming: Q. Is it possible to make the connection with the road, provided a grade-crossing is agreed upon?

A. Yes, sir; there is no use of making any track for passenger business at this point; just as the tracks are is possible for passenger business. 2329

Q. I suppose if you are going to send two cars, you would want to switch?

A. Yes, sir; passengers can change cars there without any change of tracks.

Q. Could you put a *Y* in there so as to afford an opportunity to change cars?

A. Yes, sir.

Q. Passenger cars?

A. Yes, sir. 2330

Q. Which is the better route to operate, everything being considered, a grade-crossing there as you have made out the line, or a road with an over-crossing, including the desirability of connection with the Lake Shore and considering the elevation?

A. I see no difficulty with operating this road with a grade-crossing.

Q. Have you examined the Buffalo, New York and Philadelphia crossing? 2331

A. Yes, sir.

Q. Does this present any more serious objection than that crossing, in your judgment?

A. No, sir.

Q. Are you acquainted with the crossings at Elizabeth?

A. I am, sir.

Q. Elizabeth, New Jersey?

2332 A. Yes, sir.

Q. Describe those crossings to the commissioners?

A. All the passenger business, and a large part of the freight business, between New York and Philadelphia, and New York and west, passes over that crossing, and the Jersey Central's business passes over that crossing; sixty-six trains a day of the New Jersey Central passes over that; all the New Jersey Central's coal going to tide-water passes that crossing, and all the freight to New
2333 York that passes Newark passes that.

Q. Is that a heavy traffic?

A. Yes, sir; one of the heaviest in the country.

Q. And still that grade-crossing is operated?

A. Yes, sir.

Q. At what angle is that grade-crossing?

A. I should think it was about at an angle of sixty degrees.

Q. Which is the better crossing, everything being
2334 considered, a crossing at a right angle or at an acute angle?

A. A right-angle crossing?

Q. Why so?

A. The train passes over it so much more quickly.

Q. It much more than counterbalances the other difficulties?

A. Yes, sir, the blows to rolling-stock.

Q. Which would be the worse crossing, one located
2335 like your proposed crossing, a crossing where trains already stop, or a crossing three miles out on the Lake Shore road, thereby compelling all trains to make an additional stop?

A. They had better have the crossings together, contiguous.

Q. Isn't a crossing where trains run slowly much better than a crossing out in the country which they approach at a high rate of speed?

A. Yes, sir.

2336

Q. Isn't there much less risk of accidents?

A. Yes, sir.

Q. Mr. Chanute thought that ninety per cent. of the objections to grade-crossings were the dangers of collisions, as I understood him to say; have you had any very serious accidents on your grade-crossings on the Lackawanna road?

A. I don't recollect of any, sir.

Q. Then these grade-crossings can be operated with care?

A. Yes, sir.

Q. So as largely to eliminate the danger?

A. Yes, sir.

CHARLES SHIPMAN, sworn for the respondent, and examined by Mr. Locke, testified as follows:

Q. Where do you reside?

2338

A. At Buffalo, at present.

Q. What is your business?

A. Civil engineer.

Q. Are you in the employ of the Buffalo and Lackawanna Road?

A. Yes, sir.

Q. Have you taken some memoranda in regard to the time occupied by the passage of trains over the Lake Shore road, at the Erie crossing?

2339

A. Yes, sir.

Q. When did you take your observations there?

A. About two days, on the fifteenth and on the nineteenth.

Q. On the fifteenth of what?

A. July.

Q. At what time did you go upon the ground on the fifteenth of July?

2340 A. At seven o'clock and fifteen minutes in the morning.

Q. How long did you remain ?

A. Until 5.42 in the morning.

Q. Did you observe every train and car that went across there ?

A. Yes, sir.

Q. Have you made a graphic sketch of the operation at that crossing ?

2341 A. I have a graphic sketch made from these observations.

Q. Have you examined it ?

A. Yes, sir.

Q. And is it correct ?

A. Yes, sir.

Q. I will ask you further, what time did you go down there on the nineteenth ?

A. At 7.29 in the morning.

2342 Q. How long did you remain there ?

A. I remained there until about a quarter of six o'clock, I think ; I cannot be positive to the minute, but it is there on the drawings.

Q. Didn't you keep track the whole of the twenty-four hours on the eleventh ?

A. Somebody relieved me at night.

Q. Is this a sketch of both days ?

A. Yes, sir.

2343 Q. Will you please explain it and tell us what it is ?

A. This is a diagram drawn by a scale, each of those numbers representing two minutes.

Q. Which numbers ?

A. The small divisions and the vertical division ; from there to there, represents two minutes, and between the dark lines represents twenty minutes of time.

Q. What tracks are represented there ?

A. Six tracks are represented there ; two tracks

which are transfer tracks on the easterly side of the 2344 crossing; those two tracks in blue are those, and the tracks in red are the main tracks of the Lake Shore road.

Q. What do the figures at the top of the paper represent?

A. Those are the hour marks, and the small marks the minute marks.

Q. What does that mark represent?

A. The main track of the Lake Shore road. 2345

Q. What are those marks at the end of the paper?

A. Those locate the obstructions at the time.

Q. The cross representing the engine?

A. Yes, sir.

Q. The circle, the engine and tender?

A. The engine and freight cars.

Q. The triangle, the passenger trains?

A. Yes, sir.

Q. Take it on the main passenger track of the Lake 2346 Shore, number four—you reached there at 7.15 in the morning, you say?

A. Yes, sir.

Q. Will you state how long before anything went over that crossing?

A. Nothing went over the crossing until eight o'clock and ten minutes.

Q. What crossing is this, is it the proposed crossing? 2347

A. Yes, sir.

Q. The proposed Lackawanna crossing?

A. Yes, sir.

Q. What went over on the main track of the Erie from the Lake Shore?

A. That is indefinite; the notes of that line up to here are mislaid, showing the character of the train.

Q. Something crossed over?

A. Yes, sir.

- 2348 Q. How long was it on that point of crossing ?
 A. About fifteen seconds.
 Q. How much time intervened before anything else was on that point of crossing ?
 A. Three minutes and forty-five seconds.
 Q. Then something was on how long ?
 A. For a minute.
 Q. Then how much time intervened before anything else was on ?
- 2349 A Twenty-three minutes.
 By Mr. McMillan : Q. At what hour was that, the last item ?
 A. That was eight o'clock and forty-one minutes.
 Q. How long was it occupied then ?
 A. Two minutes.
 Q. By trains on that track ?
 A. Yes, sir.
 Q. What is that on number one ?
- 2350 A. Freight cars were standing there.
 Q. How long did they remain there—at what time in the morning ?
 A. They were put there at 8.15.
 Q. Was the Lackawanna crossing the point of observation ?
 A. Yes, sir.
 Q. The whole length of it ?
- 2351 A. The whole length of the crossing.
 Q. What crossing ?
 A. The crossing of the proposed line of the Lackawanna across these six tracks.
 Q. Take track number one, you say some cars were placed there at 7.15 ?
 A. Yes, sir, they were standing there when I got there.
 Q. You don't know how long they had been standing ?

A. No, sir.

2352

Q. How long did they remain there?

A. Until eight o'clock and seven minutes.

Q. Then they were removed?

A. Then they were removed.

Q. How long before anything else was on that track, number one?

By Mr. Milburn: Q. Does it show how long it was occupied in taking the cars off?

A. Yes, sir.

2353

By Mr. Locke, resuming: Q. How long before anything else went over?

A. Ten minutes.

Q. Then an engine passed?

A. Yes, sir.

Q. How long a time intervened before anything else passed the track number one?

A. Nothing passed track number one until eleven o'clock and eleven minutes.

2354

Q. There was about three hours on that track?

A. Yes, sir.

Q. That was simply an engine and freight?

A. Yes, sir.

Q. How long did it occupy the crossing?

A. About fifteen seconds.

Q. When was the next obstruction on track number one?

A. The next obstruction was three o'clock and forty-six minutes.

2355

Q. How long did that remain there, and what was it?

A. That remained there until four o'clock and seventeen minutes.

Q. What did it consist of?

A. Freight trains standing still between these two times.

Q. How long a time was it?

2356 A. It was there until four o'clock and seventeen minutes.

Q. Then there was nothing more so long as you staid that day?

A. No, sir.

Q. Take track number two, you found a train standing on number two when you got there?

A. Yes, sir.

Q. Across the point of proposed crossing?

2357 A. Yes, sir.

Q. What did it consist of?

A. Freight cars detached.

Q. How long did it remain there?

A. It remained there until ten o'clock and thirty-six minutes.

Q. Then how much time intervened before anything else was there?

A. Seventeen minutes.

2358 Q. What was there then?

A. Then there was an engine.

Q. Then how long a time intervened before anything else was there?

A. Three minutes.

Q. What passed then?

A. A freight train with engine attached.

Q. How long did that take?

2359 A. One minute.

Q. What came next?

A. A freight train with engine attached.

Q. At what interval?

A. Three minutes.

Q. How long did that train take?

A. Two minutes.

Q. When was the next thing that passed track number two?

A. The next thing passed at one o'clock and thirty- 2360
four minutes.

Q. There was nearly two hours there and then a
train was put on there and left standing there?

A. Yes, sir.

Q. How long?

A. It was standing there until two o'clock and fifty-
nine minutes.

Q. In the same way that you have explained that,
the diagram shows the rest of it, the same as you have 2361
explained that?

A. Yes, sir.

By Com. McAlpine: Q. For how much distance,
enough of the length of the road to cover a double track?

A. To cover the road enough to block the double
track?

Q. Yes, sir?

A. Yes, sir, they did, sir.

By Mr. McMillan: Q. The point of crossing was a 2362
point one hundred feet in width, was it a single point on
the track?

A. It was the width of the double track of the road,
obstructing the two tracks.

Q. About twenty feet?

A. About thirty feet.

Q. By Mr. Locke, resuming: Q. Have you made a
summarized statement of this first diagram of yours? 2363

A. Yes, sir.

Mr. Locke: I offer this in evidence as first exhibit
received and marked "Respondent's Ex. No. 20," by the
stenographer.

Q. Have you a diagram here of the transactions on
the 19th?

A. Yes, sir.

Q. And it is made in the same manner?

A. Yes, sir.

2364 Q. And upon the same scale?

A. Yes, sir.

Q. So that the same application would apply to that that you have already made?

Q. Have you any summary of this made of this second diagram?

A. Yes, sir.

Q. Showing how much time the crossing was blocked with moving trains and how much of the time it was
2365 blocked by trains standing still?

A. Yes, sir.

Q. What is the result of your compilation of this thing?

A. On the 19th, train number one was on the track obstructing the crossing one hour fifteen minutes and five seconds during the day while I was there. During the hours from seven fifteen to five forty-two, number two, five hours fifty-seven minutes and ten seconds.

2366 Q. What was that by?

A. That is not on this map, it is on the other.

Q. Go on?

A. Number three, twenty-nine minutes and fifty-eight seconds; number four, thirty-nine minutes and fifty seconds.

Q. Number five?

A. Five hours and fifty-eight minutes.

2367 Q. Number six?

A. Two hours three minutes and thirty-four seconds.

Q. Number seven?

A. I have no number seven.

Q. Have you made a summary of the second paper that you now produce?

A. Yes, sir.

Q. That is, of transactions on the 19th?

A. Yes, sir.

Q. How long was number one blocked that day?

A. Five hours forty-seven minutes and forty-seven 2368 seconds.

Q. By what?

A. By a freight train standing there from seven o'clock and thirty-eight minutes to ten o'clock and twenty-eight minutes, by another freight train standing there from twelve o'clock and forty-seven minutes and one-half to two o'clock and eighteen minutes.

Q. And so on?

A. Yes, sir; and so on.

2369

Q. How long was number two blocked that day?

A. Blocked all day.

Q. By what?

A. By a train that stood entirely across the crossing in the morning, and then by the hind car of part of the train that was left in the afternoon; it was left so it would obstruct the crossing; it was far enough on so as to prevent a train from crossing, all day.

Q. That is, just one car?

2370

A. Yes, sir.

Q. If the Lackawanna road had been built at that time, it would have prevented it from crossing?

A. Yes, sir.

Q. Except by leaving that car there, that crossing was not used on number two all day long?

A. No, sir.

Q. Number three, how long was that occupied?

A. Number three was occupied one hour thirty minutes and eleven seconds. 2371

Q. Number four?

A. One hour fifteen minutes and ten seconds. Number five, one hour ten minutes and fifteen seconds.

Q. Number six?

A. Fifty minutes and eleven seconds.

Q. What was that on number five?

A. That was a freight car left standing on the track.

2372 Q. How long was that left there that day?

A. That was left there thirty-five minutes and three-quarters.

Q. Was left standing there?

A. Yes, sir.

Q. You are familiar with the operation of railroads?

A. Yes, sir.

Q. Was there any trouble when these trains were left standing there such a long time, would there have been
2373 any trouble in cutting them in two and allowing a train to cross?

A. Nothing but to draw the pin, that is all, to cut them loose.

Q. How long would it have taken?

A. I should not think over a minute, sir.

Q. How much of the time, out of the time that you were there, was the crossing actually blocked?

A. It was blocked—

2374 Q. Eliminating the standing train?

A. I have got it in together, twenty-five per cent. on the 15th, and twenty-six per cent. on the 16th.

Q. Twenty-five per cent. of the time?

A. Yes, sir.

Q. That was counting it as an obstruction, these standing trains?

A. Yes, sir.

2375 *Cross examination, by Mr. Milburn:*

Q. These tracks were occupied between—what does that column show?

A. The time the train occupied the crossing.

Q. Between what hours?

A. Between the hours of seven twenty-nine in the morning and five forty-two the next morning.

Q. How long was that crossing occupied out of the twenty-four hours?

A. We didn't take it for twenty-four hours, we 2376
took it for nineteen hours and thirty-four minutes.

Q. What was the total of the blocking of those
tracks during that time?

A. It was occupied at two different times by the
trains—

Q. How long was it occupied out of twenty-four
hours?

A. For the whole six tracks it was thirty hours, fifty-
two minutes and thirty seconds. 2377

By Mr. Locke: Q. Were there other gentlemen down
there, taking the time too, on the 19th?

A. I didn't notice them.

By Mr. McMillan: Q. Do you take into account in
your estimate, any delays to trains in the yard here, that
were waiting to cross; does your statement show any-
thing of that sort; does your statement show any delays
by reason of trains waiting in the yard to yet out?

A. My statement does not cover anything but trains 2378
that cross the track at that point.

Q. Does it show, in any way, any delays incident to
trains waiting in the yard for the purpose of getting the
target to cross out on the Erie and Lake Shore? it does
not show that, does it?

A. No, sir.

Q. Take your diagram for the 15th, at what hour
did you begin on the 15th?

A. Seven o'clock and fifteen minutes. 2379

Q. From that time, from seven o'clock and fifteen min-
utes, to eight o'clock and fifteen minutes, how many loco-
motives crossed that point, as shown on your diagram?

A. I didn't stay there till eight o'clock and fifteen
minutes.

Q. During these two hours, tell us how many loco-
motives would pass that point—locomotives including
trains?

2380 A. I believe I made a statement that we mislaid the notes of the character of the trains up to this point.

Q. Give us the number of obstructions that pass back and fourth from seven fifteen to eight fifteen on all the tracks, on the Lake Shore tracks?

A. There were two obstructions on the main line.

Q. Give us the whole, in one cross, all the Lake Shore track?

A. There is eight without the freight.

2381 Q. Eight moving?

A. Yes, sir.

Q. During that hour?

A. Yes, sir.

Q. That is all you make?

A. Yes, sir.

Q. During the next hour, from eight-fifteen to nine-fifteen, how many do you make?

2382 A. There is only three on the Lake Shore for that time; I misunderstood you, I thought you meant on all the tracks that were moving.

Q. During the next hour, then, from eight-fifteen to nine-fifteen, how many were there on the Lake Shore track?

A. There were six.

Q. Take the next hour, from nine-fifteen to ten fifteen?

A. Eight.

2383 Q. From ten-fifteen to eleven-fifteen?

A. Nine.

Q. The next hour?

A. There were four; there was a part of the train that ran over into the next hour a minute; that is counted in on the next hour.

Q. The next hour?

A. There is four on the next hour, counting that one that run over from the last.

Q. One-fifteen to two-fifteen ?

2384

A. There are four there .

Q. Two-fifteen to three-fifteen ?

A. Six.

Q. Three fifteen to four-fifteen ?

A. Seven.

Q. Four-fifteen to five-fifteen ?

A. Seven on that hour.

Q. You didn't take any account as to the time the target here was occupied, did you ; your statement didn't show anything about the time of the target at the Erie crossing, and the Lake Shore, was occupied, was it ?

2385

A. No, sir.

Q. Nor does it show the length of time it would take the train that got the target here, that is, westerly of the crossing, until it crossed the point where you took the observation ?

A. No, sir.

Q. If a train had the target at a point westerly of the Lake Shore crossing that would amount to an obstruction of this track, until that train had passed across that point, for instance, here is a Lake Shore train in the yard that whistles for the target, the target is given to him, there is a delay, and nothing could cross on the Lackawanna from the time it started from the yard until it crossed over ; the target is shut against the other company all the time, from the time it gets into the yard until it is over the track ?

2386

2387

A. My figures don't include that.

Q. And that applies to all those tracks ?

A. I suppose so, yes, sir.

Q. Did it take into account any delays by reason of trains waiting in the yard to get the target ?

A. No, sir, it does not.

Q. Nor does it take into account the time that the

2388 target was set for passenger trains that were due from the west?

A. It merely took in the time of crossing.

Q. If the target were set for a Lake Shore train that was due, your crossing would be blocked at that time; if the target were set for a passenger train on the Lake Shore road coming in here, that was due, your track would be blocked at that time?

A. It would depend somewhat upon the arrangement
2389 between the companies as to the signal.

Q. If it were set for another train you would not have it?

A. No, I suppose not.

Re-direct examination, by Mr. Locke:

Q. Have you set poles out there recently, showing the grade of the proposed crossing according to the profile of the altered line?

2390 A. Yes, sir.

Q. Are they there visible now?

A. Yes, sir.

Q. For what distance?

A. They extend from Alabama street to station 219.

Q. What distance apart?

A. Various distances, I can give you the stations there.

Q. Where there is a change of grade, or anything of
2391 that sort?

A. Yes, sir.

Q. Marking the prominent points on the altered line?

A. Yes, sir,

Mr. Locke: I offer in evidence, the second graphic sketch referred to by the witness, received and marked Respondent's "Exhibit 21."

HENRY W. BOX, sworn for the respondent, and ex- 2392
amined by Mr. Locke, testified as follows :

Q. You reside in the city of Buffalo ?

A. Yes, sir, and have since 1860.

Q. You are an attorney and counselor at law ?

A. Yes, sir.

Q. Do you own lot 181 on Sandusky street ?

A. Yes, sir.

Q. Have you examined the map filed by the New
York, Lackawanna and Western Railway in the clerk's 2393
office, on the nineteenth of May, 1881 ?

A. Yes, sir.

Q. The route as laid down on that map affects this
property ?

A. Yes, sir.

Q. How much land is there in that lot, about ?

A. Three acres and sixty-one hundredths.

Q. Extending from Sandusky street where ?

A. Half-way to the Abbott road. 2394

Q. Did you represent any other property in that
locality ?

A. Yes, sir.

Q. What else ?

A. One hundred and eighty-two.

Q. Owned by Mr. Savage ?

A. William Savage. (Counsel presents witness peti-
tioners' map No. "2.") 2395

Q. There is the profile of the Lackawanna route as
proposed at grade, substantially ; here is the proposed
altered route of the Lackawanna road, showing a grade
of about nineteen feet, I think, through your property ?

A. Yes, sir.

Q. Now, you are acquainted with real estate in the
city of Buffalo ?

A. I am more especially acquainted with it in the
thirteenth ward ; these lots are in the thirteenth ward.

2396 Q. How will that proposed alteration of the route, including the proposed alteration in the grade, affect your property?

A. Well, I think it will render the balance, not taken by the railroad, substantially worthless.

Q. How, in your judgment, will it affect the other property similarly situated between the Lake Shore, say, and the Buffalo Creek Railroad?

2397 Objected to by Mr. McMillan, on the ground that these people who would be affected having been made parties not appearing in court, this question is not up before this commission. Evidence received and exception taken by the petitioners' respective counsel. Question read by the stenographer.

A. I cannot answer that very intelligently.

Q. Assume that the grade is continued some sixteen feet high above the surface of the land, from sixteen to twenty feet?

2398 A. Of course it must affect it injuriously, but it depends somewhat upon the angle at which they cross the piece of property; take for instance, lot eighty-one, and they go from corner to corner, leaving some land in here.

Q. In the corner on the south and the corner on the north?

A. Yes, sir; leaving an embankment twenty feet; why, this cannot be used for yards.

2399 Q. That is the corners?

A. No, nor for any other legitimate purpose that I can think of.

Q. You know the situation of lot 178 which I own called "Red Jacket Point"? now, sir, you know the natural grade of that land, and about how the Buffalo Creek Railroad runs through it?

A. Yes, sir.

Q. Now, if the elevation of this road is changed some

twelve or fifteen feet through that land, how would it 2400
affect its value?

A. It depends of course at what point.

Q. How does that affect lot 178?

A. What is the grade there?

Q. It is about twenty feet; how does it affect that to
put an embankment there nineteen feet high?

A. I think it would depreciate that land three or four
hundred dollars an acre.

Q. Don't it cut off a portion of the lot from any 2401
street front?

A. Yes, sir.

Q. Which is the street front?

A. The Abbott road.

Q. What is the depth of water in that creek?

A. Well, I don't recollect, but they have canal boats
up above Mr. Locke's place at the chemical works.

Q. Now, that property down there is useful for what 2402
purposes?

A. Manufacturing, railroad purposes, yards, but hav-
ing a creek front it is being built up quite extensively in
that neighborhood all along there.

Q. Now, a railroad going through there four feet
high would allow the adaption of the remainder of the
lot to business purposes in connection with the railroad,
such as lumber-yards, and for storage, and all that sort
of thing? 2403

A. Yes, sir.

Q. Wouldn't that be defeated by putting a railroad
twenty feet up in the air, practically defeated?

A. I should think so.

Q. You say you represent Mr. Savage's lot?

A. Yes, sir.

Q. Are you authorized to appear here for him the
same as yourself?

A. Yes, sir.

2404 Q. His lot is affected in the same way that yours is?

A. Precisely.

Q. Would you say the same thing in regard to all the property from the Lake Shore road to the Buffalo River; that is, so far as the grade is elevated fifteen or sixteen feet above the land?

A. Yes, sir; substantially the same.

Cross examination, by Mr. McMillan:

2405 Q. How many acres are there in this lot that belongs to Mr. Locke?

A. I can't say.

Q. How many would you say?

A. I should say twelve or fifteen acres.

Q. It is all a common, is it not?

A. Yes, sir.

Q. No street running into it or through it?

2406 A. There is one laid out on the maps; Sandusky street runs through a part of it.

Q. Sandusky street never has been worked and never staked out?

A. I think it has been staked out.

Q. I mean so far as it appears; this is all pasture lot, is it not?

A. Yes, sir.

2407 Q. Its river front is what makes it more valuable than anything else in that locality?

A. Yes, sir.

Q. The northerly portion could be readily reached from the Abbott road, couldn't it—this portion of the lot north of the railroad track?

A. That depends entirely on whether he can get the street through, I suppose, through somebody else's land; I know I failed to get a street through on my lot from north to south.

Q. There are parallel streets running through here ; 2408
there is Smith street?

A. Smith street runs north and south.

Q. A street parallel to that would run down to this
land, wouldn't it?

A. Yes, sir ; if you put it there.

Q. It is only a small portion of the thirteen acres
that is in any way cut off by the road?

A. Mr. Locke has more land than the thirteen acres.

Q. It is only a small portion of this lot that he 2409
pointed out to you that is cut off?

A. That is true ; from the street front.

Q. The Buffalo Creek Railroad runs right across that
lot at that point?

A. Yes, sir.

Q. That Buffalo Creek Railroad connects with every
other railroad coming into Buffalo?

A. That is the theory of it.

Q. So that any lumber-yards, or any purposes for 2410
which this property is adaptable could be connected with
every other railroad, as it is now located, by means of
the Buffalo Creek Railroad running through it?

A. It could be used, but who wants a lumber-yard
where its chief out-look is blocked up by an embank-
ment?

Q. Lumbermen don't care very much about an out-
look?

A. Yes, they do, that is only one of the uses of the 2411
lumber-yard.

By Mr. Milburn : Q. The Buffalo Creek Railroad
connects with this Lackawanna Railroad at grade at this
point, don't it?

A. I don't know, sir.

Q. These lines intersect each other close to each
other, close to this point, don't they?

A. So they appear on the map ; that is why I was

2412 wondering why you could get an elevation of twenty feet so quick.

Q. The whole river front of this lot of Mr. Locke's is left unaffected by this embankment, by this railroad, is it not?

A. It is not cut off from the river; I don't say that it is unaffected, however.

Q. In what manner is it affected?

A. I don't think a railroad helps any lands unless it
2413 is for port facilities for business, and you go out for instance, on the Erie road next to Peabody's, there they are about six feet high, and I think it destroys about an acre of land on each side that is almost worthless, they paid for it.

Q. The company in taking this land has to pay whatever damage there is?

A. That is a legal question.

Q. Now, you are in the employ of this Lackawanna
2414 Road, the petitioner, are you not, Mr. Box?

A. I have received no retainer; Mr. Locke, however, did speak to me sometime ago, and asked me to assist him in the application to the council.

Q. We are all glad to do it; I should not object to being employed; you are doing work for them?

A. Yes, sir.

Q. Do you know whether or not the land around
2415 here in the vicinity of yours is desired or being acquired for them?

A. I have heard of no purchases in that neighborhood by them.

Q. Or by any other railroad?

A. Or by any other railroad in that immediate locality.

Q. A nineteen-foot embankment does not cut off access between one part of the lot and the other part of the lot any more than a four-foot embankment, does it?

A. I think it does.

2416

Q. In what way?

A. Because you can more easily cross—it is not very much of a job to make a road over a four-foot railroad.

Q. A railroad company has to furnish a crossing where they cut through a single piece of land?

A. If for instance they furnished a crossing under, I don't think that it adds to the beauty of a street.

Q. Passing the aesthetics of the thing, is not an under- 2417
crossing preferable in all ways to a crossing of a railroad at grade where the grade of the railroad is four or five feet?

A. I have had no experience; I should prefer, if I was going to lay out lands to sell, I should prefer to have the over-crossing.

By Com. McAlpine: Q. A crossing at grade?

A. Yes, sir; or even four feet above grade.

By Mr. Milburn, resuming: Q. Supposing that 2418
manufactories are growing up there, and there is a great deal of traffic, to and from them with horses and teams, and one thing and another, you say that crossing at the grade of the railroad where the embankment is four or five feet, is preferable to an arched under-crossing?

A. No, I did not say that.

Q. Then you would consider, would you not, that if this property is commercially used that the under-crossing 2419
is the preferable crossing?

A. Yes, sir; I should.

Q. I say at a crossing, whether at grade, that would be the only highway for communication between the two?

Com. Clark: You mean at street crossings?

Q. Yes, sir; there is an idea prevalent if you have a grade-crossing people can go up and down anywhere.

A. There is a law that expressly prohibits any person walking on the property.

2420 Q. If there is a trestle across this place, then what would you say to a trestle of that kind, as compared with an earthen embankment four or five feet high across the lot?

A. I don't think there is very much difference between a trestle-work and an embankment so far as affecting the value of the property adjacent to it is concerned.

Q. That is, the land is just as much damaged by
2421 these piers coming at intervals, piers of the trestle, as it is by a solid embankment four or five feet high?

A. I think so.

Q. Now, that land for farming purposes is practically valueless to the owner, is it not?

A. It has not been profitable to me.

Q. It does not pay taxes?

A. Yes, sir; just about I think.

Q. The value of all this property is, or will grow out
2422 of its being applied to commercial purposes, or being taken by the railroads?

A. Yes, sir.

By Com. McAlpine: Q. This is within the bounds of the city?

A. Yes, sir.

By Mr. Milburn, resuming: Q. Now, when you really get down to this property here, a railroad going
2423 through it, where there is no railroad to-day—we have the fact, that a railroad is going through—do you think really it makes much matter whether it goes through five feet high, or twelve feet high, or fifteen feet high?

A. Yes, sir; I do.

Q. I would like precisely the facts on which you base your opinion?

Com. Clark: I was about to ask a question inasmuch as you seem to be familiar with that part of the town, I wish you would give your judgment in detail as much

as possible, showing what will be the probable effect of 2424
one road as proposed, or the road that has been adopted
over the other. I mean with a view to the future growth
of the city, as well as the present condition of the city
at that point?

A. The lands which we are talking about are low
lands, and not far from the Buffalo Creek.

By Com. McAlpine: Q. Are they flooded?

A. Occasionally they are flooded; I think this year
they were flooded to the depth of something like eighteen 2425
inches; I have there about three acres and sixty-
hundredths, according to Emslie and Lovejoy's map of
the Indian reservation lands in the city of Buffalo; if
they go through at grade they propose to cross me at
two points; the balance of the land can be used.

By Mr. Milburn, resuming: Q. What for?

A. It can be used for yards.

Q. For railroad yards?

A. Yes, sir; it can be used for individuals who have 2426
need of railroads; there is quite a portion of it; take
Mr. Savage's and my own; there is quite a portion of it
that would invite some manufacturing establishment
there in all probability, now, if they cross at a grade
even of four or five feet it destroys some of your chances
and some of the uses to which the property can be put
in the market; I cannot draw a distinction nor determine
what would be the difference between an embankment 2427
of six feet and eighteen feet; nor will not pretend to
state how much either injures the balance of the land;
a short time ago I sought to put a street from the
Abbott road to Sandusky streets, so as to have about a
thousand feet front of land, cut it up and sell it; I am
selling land in the neighborhood, within a short distance,
at twelve and fifteen dollars per foot.

By Com. Clark: Q. Whereabouts?

A. It is on Smith street.

2428 By Mr. McMillan: Q. Is that on the same side of the road as this?

A. No, sir.

By Com. Clark: Q. We are only interested in having the value of these lands here,

A. They are worth from eight hundred dollars to a thousand and fifteen hundred dollars an acre, depending on the fronts and the location.

By Com. Clark: Q. You are speaking of the lots
2429 you and Mr. Savage own.

A. Yes, sir; I was offered seven hundred and fifty, for instance, for my lands some time ago; and, to be entirely frank, I told Mr. Locke he could have them for eight hundred dollars.

By Mr. Milburn: Q. That was for the Lackawanna?

A. Yes, sir; that was on the theory they could utilize a portion of them for their yards, switches and side-tracks.

2430 By Com. Clark: Q. Do you know anything of the value of lands in Sandusky street on the south side of the Lake Shore?

A. There have been no lands sold there that I know of by the foot.

By Com. Clarke: Q. There are houses and lots there, west of the Lake Shore?

A. I am not familiar in there.

2431 Mr. Milburn, resuming: Q. Take your own lot, 181, the altered lot leaves you, does it not, on the north of your lot less interfered with; is that not a better crossing of that land for your lot if this land in here is worth anything; they are both at grade, you know?

A. I should think it would be better.

Q. Then the altered route is an improvement in that regard over their route?

A. On the grade.

Q. I say if that altered route is not a better cross-

ing for you there than this one, which swings around 2432 and cuts you off from near the north end or your lot?

A. Yes.

Com. Clarke: Q. Why is it better?

Mr. Milburn: In leaving you more room in here?

Q. If this is used for commercial purposes you might have a commercial establishment in there, might you not?

A. I don't see how you could get out; I don't see what you could establish in there without any access to it.

Q. So that a crossing in here at grade, practically 2433 destroys the whole of that lot?

A. I don't think so; you can drive across the railroad at grade.

Q. Then if you can get access to it, then this part of the lot as left by the altered route is better than that small corner left by their route?

A. Yes, sir.

Q. If you can get access to it by means of this crossing? 2434

A. Yes, sir, either under ground or up.

Q. Now, take their line through, don't that practically destroy the balance of the lot for any purpose for which it can be put?

A. It takes a good deal of the lot.

Q. Don't those two lines running through it, their lines, practically take the whole of your lot?

A. I think the balance to me would not be of very 2435 much value.

Q. Therefore, if one of those lines goes through on an embankment, it can only affect the balance of the lot to you, which is of very little value?

A. There would not be much left, you can see that.

Q. So that certainly the roads going through there, practically taking the whole of your lot, and the company going to pay you for the rest of it——

A. They don't take the whole, they take about 200

2436 feet, and there are over 600 feet there somewhere ; looking at the lines it looks as though they had got the whole thing there.

Q. As you have said, with those two lines going through at grade, through that lot, it is pretty much cut up by railroads, and there is very little left of any value ?

A. I don't now see what I can use it for, although there is the land there.

Q. Mr. Savage's is the next lot ?

2437 A. Yes, sir, No. 82.

Q. Mr. Savage is in the same situation as you are ?

A. Precisely ; yes, sir.

By Com. Clark : Q. Did I understand you to say that you were not prepared to give to the commission your views as to the difference between a road going through at grade and one built up ?

2438 A. Not the difference, no, sir ; that was not exactly what I said ; I said I was not prepared to say what difference there would be between an embankment eight feet high and one nineteen feet high.

By Com. Clark : Q. I understood you to say that it would be more injurious to have a high embankment than a low one ?

A. Yes, sir.

Q. Why ?

2439 A. The appearance of it, and the access to the property is cut off, you have one point where you can cross ; all the rest is substantially cut off by the trestle work or by the embankment.

Q. You are speaking of your lot ?

A. Yes, sir.

Q. Speaking in reference to all the lands about there ?

A. I think it is the same ; it is going to cut off a portion of the land ; for instance, a man has property on Sandusky street,

By Mr. Milburn: Q. Is there any difference as to 2440
access with the grade as represented there?

A. Yes, sir; suppose you have a lumber-yard that,
in order to have railroad facilities, you would have to
build up; you would have to build your side-tracks
pretty extensive, and your switches, you would have to
have them elevated the same height of your main tracks
through it.

By Com. Clark: Q. That is, to connect with the
road?

2441

A. Yes, sir.

By Mr. Milburn, resuming: Q. But where, through
this same lot, there is the same railroad running at grade
which is accessible, then have you to build your
switches, etc., to connect?

A. Yes, sir, you have to build; of course you don't
have to elevate them.

Q. Then, if there is one on an embankment, and the
same road running through this runs at grade, the con- 2442
nection will naturally be made with the railroad run-
ning at grade?

A. I suppose that is so.

Q. And as to your getting back to the point we were
talking about; I will ask you if there is any more access
with the grade represented by the routes as they are
now, than by the nineteen feet?

A. Yes, sir; I think so.

Q. How so?

2443

A. I think if you wanted to get some apples in an
orchard, you could get over a four-foot board fence easier
than a twelve-foot.

Q. Coming down to practical means, by commercial
people over railroads, they have their crossings, which
become established highways, and they use those high-
ways, don't they; they don't go wandering over all of

2444 those tracks at all points, climbing up this embankment ;
we take the established highway ?

A. Not always, you take it down on Ganson street,
and every lot owner has the right to insist on approaches
to his lot over the track.

Q. That is where the track is in the street ?

A. No, sir, on the side of the street.

Q. Just level with the street ?

A. Yes, sir.

2445 Q. That is the privilege under which that road was
allowed to build alongside of the street there ?

A. Yes, sir.

Q. If those lots were subdivided, would there be a
legal right for each owner to have a separate crossing ?

A. Not if the owner took their land before the sale,
or if they took it under any circumstances except by
agreement.

By Com. Clark : Q. Your objection to a high em-
2446 bankment seems mainly to be to the obstruction which
it affords to a view of the surrounding property ?

A. Yes, sir, that is one of the objections, and then it
narrows the uses.

Q. The present or prospective uses ?

A. Well, I think that the present uses ; they propose
to go along on one side and take all the lands on Miami
street, the other side is all built up west of the Lake
Shore road with an embankment right up in front of a
2447 man's house, I think it substantially destroys the value
of the property.

Q. What would be the effect of carrying this route
into Sandusky street as it crosses the Lake Shore and
Eric, I mean what effect upon the surrounding property ;
their route, it seems, goes into Sandusky street ; is that
land of sufficient importance which should induce the
commission to give it consideration ?

A. You go anywhere where they build elevated roads,

and see the lands are utterly worthless adjacent to it; 2448
you go out to the Niagara Falls road where they cross
by the Central car shop, and you can't sell a foot of land
there.

ALONZO B. TANNER, sworn on behalf of the respondent, and examined by Mr. Locke, testified as follows:

Q. You live in the city of Buffalo?

A. Yes, sir.

Q. Are you familiar with the value of real estate in 2449
this city?

A. I think I am.

Q. You have had large experience in real estate matters, have you not?

A. Yes, sir, considerable.

Q. You are a practicing lawyer as well?

A. Yes, sir.

Q. Do you know the general situation of the property in the city of Buffalo between the Buffalo River and 2450
Alabama street on the east and west, south of the Abbott
road and Elk street?

A. Yes, sir, I have not paid any attention to the maps
the way those railroads run.

Q. You do not know how these proposed lines of the
Lackawanna road cut the property through at that
locality?

A. No, sir, I do not.

Q. Do you know the situation of lot number 178? 2451

A. Yes, sir.

Q. At Red Jacket point?

A. Yes, sir.

Q. And the property between that and the Lake
Shore road?

A. Yes, sir.

Q. And the general situation of the property between

2452 Alabama street and the Lake Shore road as shown on the line of the Lackawanna road?

A. I could not tell you much about that.

Q. Now, what is the comparative effect upon adjacent property produced by the building of a railroad through it upon an embankment twenty feet high, as compared with the construction of a railroad through it three or four feet high?

A. Well, it would be more of a damage to the ad-
2453 joining property, very much more, with an embankment of the height that you speak of.

Q. Why?

A. It would not be as easily got over, accessible to go from one point to another, where you would have to cross this road.

Q. Would it also interfere with the uses to which the adjacent property might be put?

A. Yes, sir, I think it would.

2454 Q. Well, suppose that a railroad be built on the south side of Mackinaw street upon a high embankment, what is the effect upon the lots fronting the other side of Mackinaw street?

A. Oh, it would damage them.

Q. Depreciate their value?

A. Depreciate their value considerably, I think, of course if a road could be run so as not to change the
2455 grade of the land very much, it is less damage.

Cross examination, by Mr. Milburn :

Q. All this property in that region, before you get to the Lake Shore, is commons, property lying in common?

A. Yes, sir ; they call it farming lands.

Q. It is farming lands?

A. Yes.

Q. And its value is prospective according to commercial development? 2456

A. Yes, sir.

Q. As railroads may want it, or as navigation may be opened on the creek?

A. On the creek, yes, sir, that is correct.

Q. Do you think, generally to begin with, that a railroad going through these lots, that it makes much difference whether the grade is seven feet high or seventeen feet high? 2457

A. I should think it does.

Q. In what way would it make a difference?

A. Supposing I owned land on either side here—

Q. Take just that case?

A. It would cut my land right through with a high embankment, and make the high land on either side of the embankment of considerable less value, I suppose, because of the difficulty of passing from one part of the premises to the other; that would be one very serious objection. 2458

Q. What superiorities of access would a seven-foot embankment afford over a seventeen-foot embankment, with under-crossings?

A. I don't know as that would make very much difference.

Q. Supposing you have under-crossings with your seventeen-foot embankment, is the access between the parts of your premises on different sides of the railroad just the same as though your embankment was seven feet high? 2459

A. I don't know that that would make so much difference.

Q. It would remove the objection that presents itself to your mind?

A. That would remove the objection somewhat.

Q. That whole question is one of access, is it not?

2460 A. Yes, excepting that the appearance, perhaps, of a high bank seven or ten or fifteen or seventeen feet high on the premises would be more damage to it.

Q. The appearance of a bank seven feet high will be somewhat objectionable?

A. Yes, sir.

Q. And one of seventeen or twenty feet high would also be objectionable?

A. Yes, sir, only more so.

2461 Q. Then, if this land is applied for commercial purposes and supplies the conveniences for trade, the question of appearance is reduced to a minimum, is it not?

A. Yes, sir.

Q. That mainly applies to its being used for building property?

A. Yes, sir, it applies more to that.

Q. The question of appearance applies more to its being used for building, for dwellings?

2462 A. Yes, sir.

(Presents petitioner's map No. "2" to witness.)

Q. Look at at this map, where it comes through lots 180, 181, 182 and 183, and taking it that there are two railroads, one coming down there and swelling out to that end, as I indicate on the map, doesn't that practically appropriate that lot to those purposes, if those two railroads are built through there, taking it at grade just as indicated on this map. There is very little left, if
2463 any, of these lots of any value?

A. Very little; it would not apply to that place there (witness indicating on map).

Q. Take, for instance, lot 101, what is left of frontage on Sandusky street is not of much value, is it, with the railroad coming in there, and having switches out?

A. Well, you could hardly say of much value, because the frontage on Sandusky street——

Q. There is no street there?

A. Taking the scale there, it actually indicates prob- 2464
ably two hundred feet deep from there to the railroad.

Q. If that was valuable as fronting of Sandusky
street, the embankment on this line would be at the rear
of that property?

A. Yes, sir.

Q. And the access to and from that property would
be on Sandusky street?

A. Yes, sir.

Q. So that the embankment there would have but 2465
very little effect on the value of that property fronting
on Sandusky street, wouldn't it?

A. It would have some effect.

Q. That is a question of appearance?

A. Yes, as a question of appearance it would have
some effect of course; of course this embankment dam-
ages the property more where it runs through a party's
premises.

Q. That depends on how much of his premises are 2466
left, and to what purposes those parts which are left can
be applied?

A. Yes, sir; certainly.

Q. If two railroads going through, practically appro-
priate the entire lot, leaving only that which cannot be
used for commercial purposes, or cannot be used for
dwelling, then he cannot be injured by that embankment?

A. Not very much.

2467

GEORGE VOM BERGE, sworn for the respondent and
examined by Mr. Locke, testified as follows:

Q. You reside in Buffalo?

A. Yes, sir.

Q. Are you a civil engineer?

A. Yes, sir.

Q. Now in the employ of the New York, Lacka-
wanna and Western Railway Co.?

2468 A. Yes, sir.

Q. Were you ever city engineer?

A. I was.

Q. How long were you engineer of the city of Buffalo?

A. I was in the employ from 1862 to 1879.

Q. Are you familiar with the location of the different streets in the city?

A. I am.

2469 Q. Is Louisiana street a paved street?

A. It is.

Q. With a fixed grade?

A. Yes, sir.

Q. What is the base line of city level?

A. It is a line established at a certain height above the bottom of the canal.

Q. What is the height?

2370 A. I think it is about eleven feet and some tenths, above the bottom of the canal.

Q. That is an arbitrary line?

A. Yes, sir.

Q. What would be its level with the lake level, what would be its base line as compared with the lake level?

A. Our base line is 2.37 above the lake level.

By Com. McAlpine: Q. The lowest lake level?

A. The lowest lake level.

2471 Q. By Mr. Locke, resuming: Q. Did you assist in locating the Lackawanna line through the city?

A. I did.

Q. How does the Lackawanna grade at Alabama street compare with the grade of that street, the located grade of the Lackawanna Road compare with the actual grade of Alabama street?

A. There is no grade established there.

Q. Is there with Louisiana?

A. Yes, sir.

Q. Can you tell what is the elevation of your located 2472 grade, or proposed grade at Louisiana street ?

A. The city base line is, compared with this one, five hundred and thirty-three ; our base line is according to the levels adopted by the Lackawanna Railroad, 5.33.

Q. By Com. Clark : Q. What does that mean ?

A. That is about the assumed line ; I don't know exactly what starting point it was.

By Mr. McMillan : Q. Can you give the difference in feet and inches between the base line of the Lack- 2473 wanna Road, and the base line of the city level ?

A. I say it is 533 feet in New-York.

By Mr. McMillan. Q. 533 feet above or below ?

A. Our base line, our naught is equal to 533 of the levels of the Lackawanna, naught of our city and 533 of theirs are alike.

By Mr. McMillan : Q. That would make us 533 feet above them ?

A. No, sir.

2474

By Mr. Locke, resuming : Q. Will you commence at Louisiana street, going easterly on your proposed line and tell what streets are recorded streets on the line of the Lackawanna as proposed ?

Objected to by Mr. Milburn, on the ground that the record should be produced.

Q. There is a record of every street that is recorded ?

A. Yes, sir ; there is one in the engineer's office, and 2475 one in the city clerk's office.

Com. Clark : You might proceed with this examination, and if there is any mistake in his testimony the records can be brought in to verify his statement.

Q. Now, will you please tell which are recorded streets, commencing at Louisiana street, and going westerly.

Mr. Milburn : Will you ask him what a recorded street is.

2476 Q. What is a recorded street?

A. Recorded streets are those laid out by the Holland Land Co., those that were dedicated to the city, and accepted by the common council, and those that application was made and commissioners appointed to take the land.

Q. Now, there is a record made in the engineer's office of every street that becomes a public thoroughfare, is there not?

2477 A. Yes, sir.

Q. When a new street is laid out and accepted, it is put upon that record?

A. Yes, sir.

Q. Commence at Louisiana street, and tell which are recorded streets as you go east on the Lackawanna line?

A. Alabama street, Hamburgh street, Sidway street, Katharine street, Fitzgerald street, Mackinaw street and Smith street.

2478 Q. Sandusky?

A. I don't recollect, I am not quite certain about Sandusky street. (Presents map to witness.)

Q. Will you look at that map and see what the proposed grade on the altered route would on Alabama street be—calculate it?

A. At Alabama street the grade as shown on the proposed route would be 547.6.

2479 Q. What will that be over the present grade of the street, the present level of the street?

By Mr. Milburn: Q. Do you know the present level of the street?

A. Levels were taken over it.

By Mr. Locke, resuming: Q. You have got it on your other profile on the large map; see what the grade is there?

A. The elevation of ground is 535.5.

Q. How did you get that elevation of ground? 2480

A. I scaled it.

Cross examination, by Mr. Milburn:

Q. Was this last answer scaled?

A. Yes, sir.

Q. Do you consider that a proper way to get anything on a profile, to scale a profile?

A. As long as the book of levels is not here, that is the only way to get it, that is the elevation of the ground in the street. 2481

Q. That is an approximation, that is all that you can claim for that.

A. It corresponds as near as it can be brought with the actual levels taken.

Q. When you give us a distance on a profile from scaling, you can only give an approximation by scaling?

Q. It is as near as it can be got without having the original notes. 2482

Q. It is as near as it can be got, therefore it is only an approximation?

A. It is as near as I can get it.

Q. As near as you can get it from that map?

A. Yes, sir.

By Mr. McMillan: Q. This 547 feet, that is the elevation above the base line?

A. Above the base line.

Q. And the 533 feet the same? 2483

A. Yes, sir.

Q. So that the difference between those two gives the elevation above the street?

A. The elevation of the proposed line above the ground in Alabama street.

Q. As near as you can figure on this map?

A. Yes, sir.

Q. I want to ask if any of these streets that you named have a fixed grade?

2484 A. Yes, sir.

Q. Which ones, commencing with Alabama?

A. Alabama has none; Hamburg has a fixed grade.

Q. Just give us that grade, what the fixed grade of Alabama street is?

A. I have not the figures with me.

Q. Can you tell from this map which you have made here, can't you tell approximately?

A. Oh, no, sir; this map only shows the elevation
2485 of the ground, it don't show the grade.

Q. It don't show the elevation of the street?

A. It shows the elevation of the street, but not the grade of the street as established.

Q. How about Sidway street?

A. That is an established.

Q. Katharine street?

A. Yes, sir.

Q. Fitzgerald street?

2486 A. Yes, sir.

Q. Mackinaw street?

A. Yes, sir.

Q. Smith street?

A. That has none.

Q. You don't know what the fixed grade of any of these streets is?

A. I didn't notice, particularly, any of them; I know the grades are established.

2487 Q. You cannot give that at the point where the line crosses?

A. No, sir.

Q. Referring to the map that you have there, each of those lines, that is the located line and the proposed change, pass over the same streets, don't they?

A. Yes, sir, excepting Sandusky street, the proposed Lackawanna route does not cross Sandusky street, but the altered route does.

Q. Do you recollect whether Sandusky street is a re- 2488
corded street or not?

A. No, sir, I don't recollect.

Q. Is it customary for the railroads coming into
and passing through the city of Buffalo to cross the
streets at the grade of the street, that is, do not the com-
mon council allow them, and is it not customary that the
grade of the street is elevated to correspond with the
railroad, usually?

A. In several cases the grade of the street has been 2489
raised.

Q. To correspond with the grade of the railroad?

A. Yes, sir.

Q. Were you connected with the department of en-
gineering for the city of Buffalo at the time the Erie
crossed Batavia street?

A. Yes, sir.

Q. Wasn't that grade at that street raised seven feet 2490
to go over the Erie?

A. I don't recollect the exact amount.

Q. About that amount?

A. I think it must have been in the neighborhood of
six or seven feet.

By Com. Clark: Q. Will you state to what extent
these streets over which this amended line runs are popu-
lated and built upon?

A. I don't recollect.

2491

Re-direct examination, by Mr. Locke:

Q. Alabama street, is it not?

A. Alabama street is partly built upon.

Q. Louisiana street is?

A. There are mostly lumber yards on each side of
Louisiana street.

Q. How is Fitzgerald street?

2492 A. Below the gas works there are quite a number of houses on Fitzgerald street.

Q. How is Hamburg street?

A. Hamburg street, below Mackinaw street, is not very thickly settled; I guess there are a few houses along there.

Q. Katharine street?

A. A few scattered houses on it.

By Com. McAlpine: Q. Will you please prepare
2493 for the commissioners a table which will show the level to be ascertained by scaling these maps at each one hundred feet on the original line, and on the amended line, first of the grade of the top of the rail, next of the surface of the ground, and the difference between the two arranged in parallel lines to show the difference between those differences at each of the hundred feet distances; I will modify the question; instead of this request to Mr. Vom Berge, I now request that Mr. Haven
2494 and Mr. Berrian shall prepare a tracing of these maps which will show the same result.

ASAPH S. BEMIS, sworn for the respondent, and examined by Mr. Locke, testified as follows:

Q. You reside here in Buffalo?

A. Yes, sir.

Q. For how many years have you?

2495 A. Well, all my life principally—sixty-four years.

Q. Are you interested in property in the neighborhood of Mackinaw, Alabama, Louisiana, Sidway, and Katharine streets in this city?

A. My wife has some real estate there of which I have the charge; she owns the fee of all that is there.

Q. How many feet street front have you there upon these different streets, say below Mackinaw street; have you any idea?

A. I think on the west line of Mackinaw we have one

block of four hundred and sixty-five feet, and I think 2496 seventy-five feet in another locality on that west line of the street.

Q. Take the other side?

A. On the other side of Katharine street, in one block sixty feet, and in another seventy-five feet, according to my recollection; I could not tell you exactly,

Q. How much is Mackinaw street built upon or used?

A. Mackinaw street in this vicinity has some half dozen or more houses; we have some on Mackinaw 2497 street adjoining these blocks.

Q. How is Hamburg street?

A. You mean in reference to the number of buildings?

Q. Improvements? yes sir.

A. My attention has not been called to that particularly.

Q. That is a good deal of a thoroughfare, is it not?

A. Yes, sir. 2498

Q. Is Katharine street a thoroughfare?

A. It is the main and principal thoroughfare leading to the iron works.

Q. Is Sidway street built upon at all?

A. I think it is entirely built up between Elk and Mackinaw streets.

Q. How is it between Mackinaw and Sandusky?

A. I think there are no buildings between those two streets. 2499

Q. Is it all laid out into lots?

Objected to by Mr. Milburn.

A. I had it mapped out in 1854.

Q. Now, will you state how, in your judgment, that property would be affected by the construction of a railroad through there, elevated above the surface from seventeen to twenty-five feet high, take it from Katharine street to the Lake Shore road, and then running

2500 down so that the grade would be hit somewhere in Louisiana street, commencing at the Lake Shore road about thirty feet above the surface, and running down so as to strike the grade of Louisiana street?

A. Well, I should consider that it would be a great detriment to the land in its present shape and condition, all other roads crossing it on what is deemed to be the established grade of the streets.

Q. On the same grade as the Lake Shore road, and
2501 running down so as to strike the grade at Louisiana street?

Objected to by Mr. Milburn on the ground that the witness should state facts.

A. I can give you comparisons in regard to Katharine street, where the trestles run over there on a higher grade in order to get to the chutes as they have them on the south side of Buffalo Harbor, and when permission has been given to cross a street and put up obstructions,
2502 they generally put them where they please without regard to the owners of property; Katharine street is obstructed in that way now by heavy timbered trestle work.

Q. The Lackawanna route is a route proposed to cross the Lake Shore at grade, run over all these streets at grade, and run to Louisiana street, and there strike the grade of the street as it appears in evidence here,
2503 while the proposed altered route, the grade of the Lackawanna road is changed so as to cross the Lake Shore road some twenty-five feet above the Lake Shore rail and then carried along to the west so that it strikes grade at Louisiana street, or a little below grade at Louisiana street?

Q. Being an inclined plane down there?

A. Yes, sir.

Q. Which will most interfere with the value of property in that vicinity, in your judgment?

A. Well, in my humble judgment, Mr. Locke, I think 2504
it would be quite a serious difference between an elevated
road and one going on a grade.

Q. Which would be the worst for the property?

A. I think the elevated road would. I cannot see
where it would benefit them, in any respect.

Q. Suppose both roads are built with solid earthen
embankments, what would be the effect upon the sur-
rounding property?

A. The result would be that property would be 2505
hemmed in against any kind of outlet or drainage, and
as usual, the common council would be called up to abate
nuisances, not only annually but daily and weekly, I
think. Such is pretty much the case now, I think.

Q. Now, an embankment through there, if carried
twenty or twenty-five feet high, would not only injure
the land immediately taken for the railroad, but would
injure adjacent property, wouldn't it?

A. I should judge so.

2506

Q. Property that was not included in the right of
way?

A. Impair its future prospects unless it was entirely
absorbed and consumed by the railroad companies, and
they could use it probably in a different manner from
what individuals or citizens would for places of business.

Q. Would a lot facing twenty-five feet high be worth
as much as an out-look over a railroad?

2507

A. It would be a good thing to pay taxes on, I guess.

By Com. Clark: Q. Let him state more fully how the
future prospects of the land would be impaired by a rail-
road at grade as now established?

A. Well, a road elevated above the ordinary grade
of the street, be it eight or ten or fifteen above, certainly
would, in my estimation, be what would be termed an
obstruction at crossings of the street or along the line of

2508 the adjacent property ; it would be difficult to dispose of such property in the market at the ordinary market value of it on account of these adjoining hindrances and obstructions and dangers, etc., being in close proximity to the railroad, we regard it as being somewhat disadvantageous unless it is business property required to be used in connection with the railroads, and then it is not so objectionable. But, as a general thing, this property is being used by the mediocrity of people because it is cheaper
 2509 than in any other locality, and not only employees of railroads but all other kinds of business men, seek that kind of property for their dwellings and residences, and hence I judge it would be disadvantageous to the future prospects of the property, unless, as I before remarked, it became all absorbed for coal yards and was all converted to trestle.

By Com. Clark: Q. It would be more disadvantageous to the property than grade?

2510 A. Yes, sir ; in either case with an embankment or trestle-work. I think everybody interested in property there expects to admit railroads, and we expect to submit to the crossing of this railroad, but when it comes to lifting it as high as the roofs of dwelling-houses it might be considered a great detriment.

Q. To what extent are those streets in that vicinity populated, now?

2511 A. Well, there is quite a settlement in the vicinity of the iron works, although they are for the time being suspended. There is a large school, carrying in the neighborhood of a thousand scholars, on Hamburg street, in the immediate vicinity, and Hamburg street and Katharine street are two of the most important thoroughfares in that section of the city, and the only ones in fact leading down into the river, and Sidway street and Fitzgerald street are short streets terminating at the railroad.

Cross examination, by Mr. Milburn :

2512

Q. Mrs. Bemis, you say, owned property here affected by these things. She owns one piece of two hundred and twenty-seven feet on Sandusky and Mackinaw streets, and four hundred and fifty-six feet on Katharine and Sidway streets ?

A. Yes, sir.

Q. She also owns this block one hundred and twenty-five feet on Fitzgerald and Katharine streets, and about two hundred and sixty feet deep ?

2513

A. This is two hundred and sixty-eight feet deep ; there are sixty feet sold out of there.

Q. On the lots of land how many houses are there, to-day ?

A. There are no houses there.

Q. There are no houses on any of this property ?

A. No, sir.

Q. What is the value of land here, I mean the market value, not what its value is for railroads, but the value for buildings there, for the last year, say ?

2514

A. Well, I have sold in this vicinity for twenty dollars a foot.

Q. In this region, I mean ?

A. I would not sell any of that for less than twenty dollars a foot.

Q. What do you consider the market value of land there in the vicinity of Sidway, Katharine and Fitzgerald streets and lying between Sandusky and Mackinaw ?

2515

A. It would be worth fifty dollars a foot ; we don't expect to get over twenty-five ; it is worth all you can get ; it depends entirely upon the kind of customer you have.

Q. Now, do you say that where a railroad crosses streets, it is better to cross them at grade by a railroad, with all its passenger and freight trains, a trunk line, than it

2516 is to cross them under an arch, giving clear headway for all traffic and the abutments off the street?

A. Well, if I owned land.

Q. I am merely taking it as a matter of which is the most preferable?

A. It is a complicated question.

Q. I mean in reference to the use of the streets, whether a crossing at grade by a trunk line, with its freight and passenger business, or a crossing on an arch
2517 over the streets which leaves clear headway for all traffic, and the abutments of which are without the street?

A. Do you mean in regard to the safety, the operation of the street and the easement of it.

Q. The use of the street by the public?

A. Well, perhaps human life on the highway would be safer during the operations of both, but, as I have before remarked, the future prospects of the property is a question in my mind how it is going to affect it.

2518 Q. Now, we are just confined to the interests of the public, and I ask you, if, in your opinion, it is not the best mode of crossing of a street to go over head, clear and free from all traffic?

A. I think if it was a general thing throughout the city there would be much more safety to human life, but we have thereon all sides these railroads.

Q. You know that there are a great many accidents occurring at these crossings of streets by railroads, ac-
2519 cidents to persons particularly?

A. Yes, sir; probably a greater percentage would occur to those roads that are on a grade-line with the streets, in consequence of their operations, but I was asked the question in regard to affecting the value of the property, and I have stated what I have prospectively on the future of the property.

Q. If this property, lying between the Lake Shore and Alabama and Mackinaw streets, is useful for build-

ing lots, the mere sending of a railroad through it at 2520 grade depreciates its value, does it not?

A. Oh, it would depreciate that that comes in contact with it.

Q. It depreciates that that it comes in contact with and does it not depreciate that immediately adjoining it for dwelling purposes?

A. I don't know but it would; I would not want to live right alongside.

Q. The great fact in regard to injury to property like 2521 this is a railroad going through it at all?

A. No, sir; there is a broad distinction in my estimation between going across on a grade-line and elevating it up as high as the roofs of the houses.

Q. What sort of houses are those down there—that vicinity?

A. They are mainly wooden houses.

Q. Do you think that the people who live down there, in that vicinity, are people who pay a very great regard 2522 to the looks or æsthetics of the railroad going through there?

A. Well, I am not disposed to judge of such people any different from those living on the avenue.

Q. They are plain working people, that is what I mean to get at?

A. I presume so.

Q. Now, this property here is occupied by laborers 2523 and artisans, is it not?

A. I guess they are not laboring very much now on account of the suspended operations of the iron works and rolling mills.

Q. When they are at work is that what they are at work at?

A. As a general thing, most of them are employes that have been in the service of the railroad or iron works, or depots, etc.

2524 Q. Now, what is the great objection, or the great difference, say, take this lot of yours lying between Sidway and Katharine streets, between their taking one hundred feet through that, and grading it up as they please, and putting their tracks on it, and having a trestle, say eighteen or nineteen feet high, and their trains going over that, will you please tell what are the facts, which show that more injury is created to the land by the trestle than by this railroad going over, a nine-foot grade
 2525 going right through there?

A. Well, the difference is that the trestle-work would be about as high as the roofs of the ordinary houses there, and would deliver all its smoke and sparks and everything of that sort over the roofs instead of along the road.

Q. Do you think as much of the smoke of a railroad seventeen or nineteen feet in the air will be delivered into those houses as from a railroad running nine feet?

2526 A. I think so.

Q. The smoke would come downwards?

A. It would come downwards.

Q. That is a region pretty much given up and cut up by the railroads of to-day, is it not?

A. I don't know as it is.

Q. You don't believe in elevated railroads, do you?

A. I had rather travel on a solid foundation.

2527 Q. What sort of an elevated railroad is this one that your speak of in this vicinity; it is a coal trestle is it not?

A. I believe so, this would be about the same thing.

Q. That is where you suppose wrong?

A. I don't know.

Q. That is a regular coal trestle on a steep slant?

A. Yes, sir, I suppose so.

Q. And that you are comparing to this road as proposed to be built through here?

A. Yes, sir.

Q. And a good deal of your judgment, or some part 2528 of the judgment, as to the injury, is dependent upon the comparison of this road, as we propose it shall go through there, with this coal trestle that is in your mind?

A. I can see no great benefit.

Q. Just answer that question, if in reaching your judgment about the effect of this road as we propose it shall be built, you are comparing it as a structure with this coal trestle?

A. Well, so far as the construction of it is concerned, 2529 it strikes me it would be about the same thing, there would not be anything very neat, nor anything very sightly, to use that expression.

Q. That enters into and affects your judgment; are you opposed to elevated railroads in the city any way?

A. I don't see what that has to do with this case.

Q. That is not your business, if counsel don't object to it?

A. I think I should oppose any such thing as that; as 2530 a member of the common council, and as a representative of the people, I should oppose it.

Q. Are you opposed to elevated railroads anyway?

A. No, sir, I am not; you might have all you wanted on your own property.

Q. What sort of an elevated railroad are you in favor of?

A. I am not a railroad builder nor a stockholder.

2531

Mr. Locke offered in evidence, the street record of the city of Buffalo, showing the opening of Sandusky street from Hamburg street, to the reservation line.

Evidence received :

It is admitted that the Indian reservation line is westerly of the tracks of the Lake Shore and Michigan Southern Railway Company, as now located near the point of the proposed crossing of the Lackawanna, and upon lands of the Erie Railway, and is the northwest

2532 boundary of the Erie right of way at the point of crossing by the Lackawanna.

HARRY FILLMORE, sworn on behalf of the respondents, and examined by Mr. Lock, testified as follows :

Q. Where do you reside ?

A. Scranton.

Q. You are now engaged on the engineer force of the Lackawanna road in the city of Buffalo ?

2533 A. Yes, sir.

Q. Do you know the location of the proposed crossing of the Lake Shore road at Sandusky street, or near Sandusky street ?

A. Yes, sir.

Q. What do you do on the engineer force ?

A. I hold the position of rod-man.

Q. Were you sent to observe the movement of trains over the proposed point of crossing at any time recently, and, if so, when ?

A. I was sent Monday night, July 18th.

Q. And did you go to the premises ?

A. Yes, sir.

Q. What time did you arrive there ?

A. I got there about 8.20 in the evening.

Q. How long did you stay ?

A. I staid until 5.30 in the morning.

2535 Q. Did you observe every obstruction upon the Lake Shore tracks and Erie tracks at that proposed point of crossing ?

A. I did.

Q. During those hours ?

A. Yes, sir.

Q. And how wide a section of the crossed road did you consider as the point of crossing ?

A. I only took the main line ; I did not take any width at all, I took simply the line.

Q. The center line? 2536

A. Yes, sir, the center line.

Q. Did you know how long the center line was obstructed in each case?

A. I Did.

Q. And the character of the obstruction?

A. Yes, sir.

Q. Did you afterwards assist in making this graphic sketch?

A. I did not. 2537

Q. What did you do with your memoranda?

A. I have the paper here.

Q. Who made this graphic sketch?

A. I don't know.

Q. Are these the memoranda that you made? referring to paper produced by witness.

A. Yes, sir.

Q. Do they express the time when an obstruction was placed upon that point of intersection, and the time that it remained there? 2538

A. They do.

Q. Now, what was the first obstruction?

A. The first obstruction was a freight train, 8.20.

Q. How long did it remain there?

A. One minute.

Q. On which track was it?

A. On the first track.

Q. Which way? 2539

A. The first track coming from Buffalo Creek; I don't know which way it is.

Q. Which side of the Lake Shore road?

A. It is away from the city.

Q. How long was the next obstruction?

A. Two seconds.

Q. What was that?

A. An engine and one freight car.

2540 Q. When did that get there?

A. 8.24.

Q. On what track?

A. On the first track.

Q. What was the next one?

A. The next one was one engine and one freight car.

Q. What did you do with that memorandum after you got it done?

A. I left it with Mr. Welch at the National Hotel,
2541 and he gave it to Mr. Shipman.

(It is admitted that the graphic sketch was made by Mr. Shipman, from the memorandum produced by this witness and made correctly, and that the graphic sketch produced marked "22" is the one referred to.)

Cross examination, by Mr. McMillan:

Q. How long have you been in the engineer's department?

2542 A. About eight months.

Q. Were you present when this line was located. Were you in their employ then, and did you assist as roadman, or in any other capacity?

A. I did.

Q. That represents that crossing down there, "Exhibit 3," just point out about where you stood when you took this time?

A. I can't show you exactly by this map; I think I
2543 stood by that switch; I had to use a light to write by; I think that was the red lamp on the switch.

Q. You stood near the point of crossing as laid out by the Lackawanna, did you?

A. Yes, sir.

Q. On the Lake Shore track, or near it?

A. Yes, sir.

Q. Were you alone?

A. Yes, sir, I was alone.

Q. Did you stand or sit?

2544

A. I stood all the time.

Q. How far were you from what they call the target out there?

A. It is about two hundred feet, I should think.

Q. Then the entire yard and transfer-house were north of you some two or three thousand feet, were they not?

A. I don't know the distance.

Q. Well, they were north of you?

2545

A. Yes, sir.

Q. How many tracks did you take out there?

A. Six.

Q. There are ten tracks, are they not, at the point of crossing?

A. It seems so by that plan.

Q. Did you take anything on the Erie?

A. I did.

Q. You took on all the tracks that cross that point, as you understood, did you?

A. I did.

Q. Which track from the point where you stood did you call track number one; was it the one nearest to you?

A. It was the one furtherest over.

Q. Then number two was the one next nearest to you from that?

A. Yes, sir.

2547

Q. Number two had an obstruction all the time, had it, as appears from this graphic sketch?

A. I don't understand that graphic sketch.

Q. You took your own time, and made your own annotations; you had your own time-piece?

A. Yes, sir.

Q. You took no memoranda of any delays here in the

2548 yard, of the trains on either the Lake Shore or the Erie waiting for the target, did you?

A. I did not.

Q. You took no delays of trains in the yard incident to the target being set for passenger trains that were due, did you?

A. I don't quite understand your question.

Q. For instance, when a passenger train is due at this point, the target is set for it, and no freight train can go
2549 out from this yard?

A. No, sir.

Q. And the target remains set until the target-man gets some instruction that the train is behind time to such an extent that he can let them go out; you took no note of that, did you?

A. I did, in two instances.

Q. Just refer to your memoranda and see what those were?

2550 • A. Three o'clock the crossing was blocked and a train kept waiting twenty minutes.

Q. By what?

A. By a freight train on the Lake Shore.

Q. That was kept waiting on yōūr crossing, was it?

A. On the Erie crossing, it was also on ours.

Q. It was at the point crossed by your track?

A. Yes, sir.

2551 Q. Then you did not make any minute of anything except obstructions along the center line of the Lackawanna proposed route?

A. I did also across that track there.

(Witness indicates the track.)

Q. That was the cause, but you took the time of the obstruction at the Lackawanna?

A. Yes, sir.

Q. And you have no note of any delays of freight trains coming in, on the Lake Shore, have you,?

A. I have not.

2552

Q. About what is the distance between the dock-track and track number one?

A. I could not tell.

Q. Give us an approximate estimate; it would be about three hundred feet across there; and you stood at a point about at the center?

A. I stood somewheres near that track; I came over near the Erie track when there were trains over there.

Q. Do you think you could take time as close as two 2553 or three seconds down there?

A. I could by counting.

Q. Was that the way you did it?

A. That was the way I did it.

Q. And how many did you count for a second?

A. I didn't count at all, I simply held the seconds in my own mind.

Q. That was the way you arrived at the number of seconds, or the time in which it took the train to cross 2554 over?

A. Yes, sir.

By Com. McAlpine: Q. Had your watch a second-hand?

A. It had no second-hand, no, sir; it was an old-fashioned watch, very old.

By counsel, resuming: Q. About that time did you observe if they were drilling trains, back and forth across, 2555 or locomotives here from the yard?

A. There were a few way down beyond the Erie transfer-house.

Q. How was it in the Lake Shore yard?

A. There were a few trains moving there.

Q. Do you understand this graphic sketch?

A. Partially.

Q. Then tell me how it is; you have only taken six tracks?

2556 A. Those were all that were used.

Q. Those were all that were used that night?

A. Yes, sir.

Q. You say the first track was the extreme easterly one and number two was the next one to it; you continued to count them until you came up to where you stood, as one, two, three, four?

A. I believe I only took this one track, and did not take that switch at all, as I understand it.

2557 Q. You had four tracks on the east of you, and you only gave numbers one and two to the first four tracks?

A. Yes, sir.

Q. On the west of you here are two tracks on the Erie; what numbers did you call them?

A. I believe one of the Erie was five, and two of them six; one of those was not used at all.

2558 WILLIAM A. HAVEN, recalled on behalf of the respondent, and examined by Mr. McMillan, testified as follows:

Q. You prepared this profile? (Presents profile to witness.)

A. I had it prepared.

Respondents here rested.

2559 JACOB H. LINVILLE, recalled for the petitioner, and examined by Mr. Milburn, testified as follows:

Q. I wish you would commence at the easterly end of this change that we propose, of the route of the Lackawanna, and describe to the commissioners from an engineer's point of view, having reference to durability and economy; what constructions should be made to accomplish the purpose sought, beginning now on line A?

A. I would first commence with an embankment

until the heights of the grade ran about ten feet, and I 2560 would build the trestle-work either framing trestles of hemlock with pine stringers, or by driving piles for the posts, capping those and placing stringers onto them at all points where it was more than ten feet height of embankment, except at street crossings and railroad crossings and the river bridge; over the streets and the railroads I would place iron bridges supported on stone abutments, and in the crossing of the railroad intermediate piers; at the river I would build abutments of 2561 stone, and a pier, making two spans of bridge.

Q. Now, I will ask you, there, when you get onto, what for this purpose we will call the west side of the Lake Shore and Erie railroads, this crossing, what would be the nature of the structure over this part, cut up with streets, until the grade of the Lackawanna is again struck?

Com. Clark: . Does this extend to the intersection?

A. The description, so far, practically covers the 2562 whole line at the streets and railroad crossings; I would place bridges where the elevation over the street was sufficient to require a bridge; where it was not sufficient I would raise the approaches of the streets up and at intermediate points I should place a trestle-work.

Q. What sort of a trestle-work would you place there?

A. Well, my impression is that a frame trestle work, made of hemlock timber and using white pine stringers 2563 would be built a little cheaper than pile trestle work, but there is very little difference in the cost.

Q. One of the things that I wanted to get at was what would be the feasibility in reference to this being an inhabited part and there being streets here and in view of these lots being used for building purposes, as to making an iron trestle over this part, west of the Lake Shore?

2564 A. There is no difficulty whatever in making iron trestles through all that portion and through the entire line where I have mentioned that wooden trestle can be made; I spoke of wooden trestle in reference to making a permanent embankment; the line can be constructed with wrought iron trestle at a very slight additional cost over wooden trestles, and a permanent embankment afterwards filled in; they can be constructed at once, one operation to make a permanent road, and a very slight
 2565 increased cost over the wooden trestle and the embankment; the expense is practically the same for the permanent structure.

By Com. McAlpine: Q. An expense over a wooden trestle afterwards to be filled with earth embankment?

A. Yes, sir; the permanent structure of iron trestle work occupying the space between the streets and over the streets will cost slightly more than a wooden trestle
 2566 filled with an embankment; it requires a trestle to be placed there first in order to convey the material to that point.

By counsel, resuming: Q. In reference to this point of the line, the west side of the Lake Shore crossing being a part of the city cut up into streets and appropriated to building purposes, what would be the best sort of a structure to make there, this wooden trestle to be filled
 2567 in as an embankment, with bridges over the streets, or over that course an iron trestle?

A. The iron structure would be the most desirable structure there for various reasons, in that locality.

Q. State why?

A. It is a very permanent structure, secure; there can be no objections raised to a structure of that kind on account of its want of permanency; and it is open; spans of thirty feet alternating, say with spans of thirty feet that are braced; simply truss rods across them—

they are spans of thirty feet that are open, alternate with 2568 those that are braced, so that every thirty feet you have spans of thirty feet of clear; thirty feet is clear and thirty feet is braced, and thirty feet clear again, or about in that proportion, so that vehicles, roads, anything may pass under at so many intermediate points between the streets; they cannot pass under, of course, when it is solid embankment; can only pass at the street crossings; it don't obstruct the light or view of the surrounding property. 2569

Q. Then it is with reference to all the surrounding property that you would prefer at that point the iron trestle over any other form of structure?

A. Decidedly.

Q. That iron trestle would be horizontal—will you just describe it a little?

A. The usual method of constructing iron trestle is to put up trestles, iron posts placed on small piers and braced across at the bottom and at the top and diagonally, forming open pier; for a single track there would be four of those columns forming a trestle, and for a double track you might use six or eight; and then the top is a longitudinal girder, reaching over this thirty feet to a pier, and then between that trestle pier and the next trestle pier is a longitudinal girder spanning over the open space, so that it is simply a set of piers placed, say thirty feet apart, clear with longitudinal girders 2570 connecting, these piers consisting of only four or six or eight posts. 2871

By Com. McAlpine; Q. Piers consisting of iron posts instead of what would be commonly understood by piers constructed of masonry?

A. Yes, sir; the posts are placed at the corners, and all the space between them is open; there is nothing to obstruct the light but a couple of diagonal rods

2572 which cross to brace the posts and hold them in a vertical position.

By Com. McAlpine: Q. Diagonal rods transversely of the railroad?

A. Transversely and longitudinally also.

By Com. McAlpine: Q. But not longitudinally of the railroad?

A. Yes, sir; that prevents vehicles from crossing through the piers, but at each side of the pier is an opening that is unobstructed; there is nothing over that
2573 opening, but the longitudinal girder of the bridge under the track.

By counsel, resuming: Q. Could you have this part of the route that you have last mentioned made of the iron trestle, the iron bridge over the railroad and then all the rest of the course, going east, this trestle-work and embankment that you have mentioned?

A. We could have that just as readily as if the whole
2574 of both lines were constructed of embankment, and we could as readily construct this other portion of iron trestle.

Q. The other portion going east?

A. Yes, sir; we could just as readily construct the entire altered route, except the bridges, of iron trestles.

Q. Now would you please state and give a description to the commissioners, the nature of the bridge that you would design and erect crossing the railroads on the
2575 altered line?

A. I would propose to cross the Lake Shore tracks on the altered route with a span of 125 feet, an iron bridge over the Lake Shore tracks; then from *O* to *N*, perhaps an iron trestle-work, in order not to obstruct the view there, leave it open, not put in any embankment there which would require large abutments; that is about 220 feet; then a span of 100 feet over the Erie tracks;

then two spans of 63 feet, the second of which spans 2576 Fitzgerald street.

Q. Have you considered at all the question of a bridge over their proposed route?

A. I have not made any detailed estimate of it; in order to bridge on their proposed route it would require a span of 125 feet there over the Lake Shore tracks.

Q. That shuts them in, does it not?

A. Yes, sir; it comes inside of the right of way of the Lake Shore Road; to clear the right of way it 2577 would take about—

Q. Without reference to clearing this right of way, supposing you had that situation presented to you just as it is to-day on the proposed route and you are asked to design a bridge to cross that, with due reference to the development of the road in the future, so that the bridge would be least likely to interfere with that development, and also with due reference to a proper economy in the construction of the bridge, just what sort of a bridge 2578 would you put at this proposed point of crossing with reference to its spans?

A. I should make two spans that would interfere in some measure with any tracks that might be proposed in connection with the Lake Shore road.

Q. And how long would those spans be, each?

A. About 210 feet.

By Mr. Locke: Q. You would not want to put two 2579 piers on that triangle?

A. No, sir, because if there are tracks there it would interfere with it.

By Mr. Milburn, resuming: Q. What is the distance between the two rights of way on that triangle there at the point of the Lackawanna crossing?

A. Sixty-nine feet on the center line of the Lackawanna road.

Q. Now, I will ask you with reference to these

2580 streets as the result of your experience what are the facts as to the crossing west of the Lake Shore of Fitzgerald, Katharine, and the various other streets, and that property on your iron trestle, all at grade, or an embankment, or an embankment from five to seven or eight feet, what are the facts which determine the best mode of crossing in reference to the surrounding property, we will say it is practically a grade-crossing and the crossing on this iron trestle that you have described, which is
 2581 the most advantageous in reference to the rights of the public and the property owners around there, and the facts on which you base your opinion?

A. My opinion is that the iron trestle would be most advantageous to property contiguous to the route of the the railway, for the reason, first, that all the traffic on the streets would pass under the railroad, and secondly, there would be no danger to life or property in street traffic. The iron trestle would further admit of convenient crossing at a great many different points in the
 2582 blocks between the streets and under the railroads, without any special grade-crossing being provided, as they would have to provide grade-crossings for the low grade road until the property was built up into manufactories at either side of the road and they wished to cross they would have to have a crossing made over it.

Q. Over the grade road?

2583 A. Over the grade road. There would be the bridges built up and everything over the track, so that they could drive over the railroad, and then they would be exposed at all time to great risk crossing the road. If you have an iron trestle-work all that risk is avoided, they pass under the road with perfect safety.

. By Com. McAlpine: Q. Did you not say that the cross-braces, longitudinally, would interfere with the road?

A. Each alternate thirty feet it would interfere, and 2584 the next thirty feet there would be no obstruction.

By counsel, resuming: Q. So that every thirty feet there is a span of thirty feet under which teams, etc., can pass underneath the trestle?

A. Yes, sir.

By Com. McAlpine: Q. Would not the strength of such a structure as that require cross-bracing in both spaces?

A. No, sir; we build structures in height up to two 2585 or three hundred feet on this principle. We build those piers up in sections, bracing at about every thirty feet in length to a longitudinal structure across. If we would put cross-bracing in between these two independent piers in an iron structure, we could not provide for the expansion and contraction of the iron. When they commenced building these iron trestles, they placed the wooden stringers between the piers and braced them in every section, but they found that they would decay and 2586 it would be better practice to build independent piers, so that we only have to provide for the expansion of about a thirty-foot span; in high trestles make the spans sometimes fifty or sixty, sometimes seventy feet between these piers. My opinion is, in reference to adjoining property, I said I preferred a trestle-work—an elevated road or trestle-work over the low grade or embankment, and I think I am sustained, in that view, by what I see 2587 occurring in the larger cities east.

By Com. McAlpine: Q. Even where you put in these cross-braces, you have in the middle a space of half the whole height uninterrupted clearance?

A. Yes, sir.

By counsel, resuming: Q. Even as to the trestles cross-braced, they are only partially obstructed, and there would still be room to pass under equal to one-half the entire height of the trestle?

2588 A. Yes, sir; if the trestle were twenty feet high, there would be a triangular space ten feet high at the apex, you could not drive through there, because we would place a horizontal strut at that place to prevent these posts being drawn together by the diagonal braces.

Q. You were saying that you thought your opinion of the superiority of such an elevated track over a grade railway, that it was justified by what was going on in other cities; will you please tell us something about
2589 what you referred to?

A. In older cities, as they become built up, permanent structures, it is the tendency to either elevate their roads above the streets or depress them below the streets. In New York city the Hudson River Road depressed their road below the streets in order to allow the streets to pass over. In Philadelphia the Pennsylvania Road, in building their new line into the heart of the city,
2590 Broad and Market streets, purchased the property along one side of the street and made an elevated road; part of that is on iron columns and girders and part of it on brick arches. It crosses all the streets by brick arches.

By Com. Clark: Q. What proportion is on brick?

A. I think about three-quarters of it.

By Com. McAlpine: Q. How does this structure which you are proposing compare with the structure of the Manhattan Elevated Road at 110th street, just immediately north of Central Park?
2591

A. This is more thoroughly braced.

Q. You contemplate a more thorough bracing?

A. Yes, sir, and not so high.

Q. How high is that, do you remember?

A. It is as high as sixty feet in some places.

By counsel, resuming: Q. And this that you propose here is more thoroughly braced than that sixty feet?

A. Yes, sir.

Q. Is it built on the same general plan as this?

A. Well, I think the plan we proposed here is better ²⁵⁹² than that, because that is not braced clear to the bottom. The bracing in that is only a certain distance down from the top, and just as you see a table is braced by the strip between the legs that passes round; the lower part of the legs are not braced, depend on the stiffness of the legs; here we take into effect the diagonal bracing which reaches clear to the bottom of the posts.

Q. Now, how would you cross these streets that you come to with this iron trestle; what modification of struc- ²⁵⁹³ ture would it require at a street?

A. I would build a pier at each side of the street and use an iron bridge over the street.

Q. An iron span over the street?

A. Precisely the same as if I were making an embankment, with this exception, that it would not require wing walls, the pier forming the abutment. If I built an embankment it would require an abutment at each side of each street, sufficiently strong and with wings ²⁵⁹⁴ sufficiently long to sustain the embankment, prevent the embankment running onto the street. In the use of iron trestle-work between the streets we obviate the necessity of building these large abutments at the streets and use only a simple rectangular pier sufficiently large to support the bridge.

By Com. McAlpine: Q. Rectangular pier of iron?

A. Of stone.

By counsel, resuming: Q. Is that sunk into the ²⁵⁹⁵ ground?

A. Build a stone pier sunk down to a suitable foundation.

Q. And then comes out of it the iron column?

A. Of sufficient size to sustain the bridge; the stringer or girder leading from the iron trestle pier adjacent to the stone pier at the street, will rest on this stone pier,

2596 and then the stone piers will carry the bridge over the street.

By Com. Clark : Q. Do the stone piers run clear up ?

A. Yes, sir.

By counsel, resuming : Q. Now, as to the uses to which this adjacent property where it is used for dwellings of the working classes, such as this property is, which would you think would interfere less, be less injurious to all of that property, the elevated road or the 2597 road going through there at grade ?

A. I am decidedly of the opinion that the elevated road would interfere less, be less injurious to adjoining property than the road at grade, low grade.

Q. That is, the entire length of this iron trestle ?

A. Yes, sir.

Q. Have you examined this estimate that was furnished by Mr. Berrian ?

A. I have.

2598 Q. Have you examined it critically ?

A. Carefully.

Q. Have you prepared estimates of your own ?

A. I have.

Q. Have you prepared an estimate that is a precise copy of this one of Mr. Berrian's excepting as to amounts and prices ?

2599 A. The estimate that I have prepared is almost a seriatim copy of that estimate, with the exception that I made slight modifications in some of the quantities, and modifications in some of the prices. I have taken the same method, followed the same routine in estimating that he did in that estimate.

Q. I think this provides for an embankment over the entire change ?

A. It does, except at the bridges.

Q. And that is by means of building a trestle and then filling up the trestle ?

A. Yes, sir.

2600

Q. And you have examined the maps and examined this estimate, and yours covers the same ground, on the same principle that he has followed?

A. Yes, sir.

Q. I will ask you if you had with you in the preparation of that, other engineers?

A. I had Mr. Haven, Mr. Hawks, and Mr. Grant.

Q. I will ask you if your prices there are prices predicated on actual work of a similar character, or allied character, being done to-day in this city?

2601

A. I was so advised by Mr. Haven, that he had some work under contract at the prices here stated.

Q. Now, will you state to us what your estimate is of this work that Mr. Berrian makes out \$490,000?

A. My estimate for the same work foots up \$341,-990.68.

Q. That is \$150,000 less than his estimate?

2602

A. Practically.

By Com. Clark: Q. To what extent are those prices predicated upon the information which you had from Mr. Haven?

A. The prices for masonry, for embankments, for timbers, and piling, is based on information obtained from Mr. Haven and Mr. Hawks, and from computations that I made from the information that they furnished as to the elements which entered into those prices.

2603

Q. Now, discarding or abandoning line *A* from what is called the main line of the Lackawanna up to where it unites with line *B* and becomes a single line abandoning that, and then what would be your estimate?

A. The estimate of route with line *A* abandoned east of its intersection with line *B*, the cost of the low grade line, the Lackawanna being deducted, is \$222,-791.50.

2604 Q. With the line *B* out, did you make any estimate of that?

A. We abandon line *A* and use line *B*.

Q. Then have you one using line *A*, abandoning line *B*?

A. No, sir, we have line *A* up to the point where it intersects line *B*, that is \$174,007.00.

Q. Then line *B* is how much?

A. \$48,784.50; I have line *A* to the intersection
2605 of line *B*, then *B* added on, so that you have the two lines independent.

By Mr. Locke: Q. How much?

A. The two lines independent, line *A*, \$293,206.18.

By Mr. Milburn, resuming: Q. What is that, the entire line?

A. The entire line through, line *B* is \$48,784.50, the aggregate of those is \$341,990.68.

Q. Now, then, line *A* at the intersection with line *B*?

2606 A. That is \$174,007.00.

Q. And using line *B* it would make?

A. \$222,791.50.

By Mr. Locke: Q. That is, in every instance deducting the cost of lines *A* and *B* at low grade?

A. Yes, sir, at all instances deducting the low grade lines.

By Mr. Milburn, resuming: Q. Does this estimate
2607 that you have given include any iron trestle?

A. There is about 220 feet of iron trestle between the Lake Shore and the Erie tracks.

Q. Had Mr. Berrian that in his?

A. No, sir, I struck out the embankment in that portion of Mr. Berrian's estimate, and substituted iron trestle.

Q. Have you also prepared an estimate of this entire line, one iron trestle with the bridges?

A. I have.

Q. Will you please tell us what you could get an entire iron trestle over the entire distance for, on the basis that you have been mentioning? 2608

A. I previously explained how I proposed building this line on iron trestle work, perhaps I had better repeat that, to say that we use iron bridges over Buffalo Creek, and over the streets, and over the railroad crossings, the same as in the other estimates; iron trestle-works between; total cost of line *A* is \$314,309.00, line *B* \$77,578.00, total of entire altered route, \$391,- 2609 887.00, from which is to be deducted lines *A* and *B* on Lackawanna location, \$26,987.00, leaving the grand total of increased cost of elevated lines *A* and *B* \$364, 900.00; I would state here that I think it is, if anything, a little too high, I have allowed, I think, a very ample amount for the iron trestle-work and iron bridges, this includes all the bridges, piers and everything.

Q. The entire work?

A. The entire work, to complete the road, except the cross-ties and rails, which have been left out of all the calculation. 2610

Q. What would be the total cost on this basis, of a complete iron trestle and bridges, of the line with line *A* abandoned east of its intersection with line *B*?

A. The total of line *A* west of its intersection with line *B* is \$176,680.00; at line *B* \$77,578.00, which makes a total of \$254,258.00, from which is to be deducted the proportion of low grade line, \$14,258.00, 2611 leaving the total cost \$240,000.00.

Q. Would it make any particular difference in the figures that you have given, to have this embankment built up to the west side of the Lake Shore railroad and the bridges as you have described, and then, from that point on, resuming the grade line of the Lackawanna, an iron trestle, would that make any material difference, beginning east, coming along with the embankment,

2612 until you get across the Lake Shore and Erie crossing, and then going on with an iron trestle?

A. The construction of that portion of the line with iron trestles instead of embankments, would cost about ten thousand dollars more than with embankments, according to these estimates; the iron trestle estimate is a little higher than the embankment trestle, but I think I have the iron trestle estimated a little high.

Q. Do your quantities differ from Mr. Barrian's to
2613 any extent?

A. Very slightly; I think Mr. Barrian's quantities of masonry are slightly in excess at some points; I have not modified those; I have slightly modified the quantity of piling, pile-trestle; I have taken about the same quantity of bridging; I make a little more lumber for making the trestles, but I didn't consider that, because I thought the excess of masonry would about compensate the deficiency in number; practically taken the same quantities; I
2614 have increased the price of the iron bridges; I endeavored to arrive at what was, in my judgment, from the best information I could obtain the prices at which the work could be done; I have reduced the cost, the price of an embankment, considerably.

By Com. Clark: Q. So that it now depends on whether Mr. Hawks and Mr. Haven are right on the prices, or Mr. Barrian?

A. My estimate is predicated on parts of it as to their
2615 estimates.

By Com. McAlpine: Q. Wherever your plans of construction agree there, your quantities naturally agree with Mr. Haven's?

A. Yes, sir.

Q. The chief difference is where you change the plans of construction?

A. There I have substituted iron trestle for an embankment, then I have deducted the embankment.

By Com. Clark: Q. I understood you to say you had 2616 taken the same plan?

A. I have changed the plan on the space between the Lake Shore and Erie tracks, that is the only change, a slight change in length of spans at some of the bridges.

By Com. McAlpine: Q. But you change the plan entirely, west of the Erie and Lake shore crossing?

A. In order to avoid confusion, in the comparison of Mr. Barrian's estimate, I first have taken his plan with the exception only of having to substitute 220 feet in 2617 length of iron trestle work, then I have made an entirely new estimate based on iron trestle-work.

By Mr. Milburn, resuming: Q. Now, take this estimate that you have made of an iron trestle all the way through, is that based on your own knowledge and experience as a bridge designer and builder?

A. Entirely.

Q. And the iron part of the estimate, that corresponds with Mr. Barrian's, is also based on your own 2618 knowledge of that?

A. Yes, sir; and I will say further as to the prices of the iron bridges, that I compared notes with Mr. Hilton, who is at present building iron bridges, and he is familiar with present prices, he agreed with me.

By Com. McAlpine: Q. Do you include the recent increased price of iron in two or three weeks?

A. Yes, sir, I took the present price of iron.

By Mr. Milburn, resuming: Q. And since your last 2619 testimony, and on reflection, your estimates are all based on our profile as it is on the original map?

A. Yes, sir.

Q. You have not made any allowance for the amended profile that we have put in?

A. None, whatever.

Q. And you think if our amended profile were taken, that that would reduce the expense about how much?

2620 A. I haven't estimated that.

Q. But you can tell us about ?

A. I presume it would make a difference of five thousand dollars; it would take something off from the base of the embankment; we reduce the heights of the masonry slightly; it would reduce the heights of the iron trestle-work slightly.

Q. I understood you to say before, three; is it from three to five thousand dollars, or in that neighborhood?

2621 A. I have made no exact estimate; I should say between three and five thousand dollars.

Q. You state those to be correct estimates, and fair estimates?

A. Yes, sir, I believe them to be correct; I have checked the figures and believe them to be fair estimates.

Q. I think you said they were liberal estimates?

A. I think they are liberal estimates, and the iron trestle estimate, I know is liberal.

2622 Q. Taking the estimate that you have made that corresponds with Mr. Barrian's, where are the great difference?

A. Mr. Barrian estimates excavation and embankment, which should be embankment at forty cents per cubic yard; the material in embankment I have estimated at twenty-five cents; Mr. Barrian has estimated it at forty cents, the masonry for the piers and abutments I have averaged at eight dollars a cubic yard; Mr. Barrian has it eleven dollars, the small piers under the iron trestles I have estimated ten dollars a cubic yard, because they are very small, and had a very small cap; Mr. Barrian has no item of iron piers under trestles, his price is eleven dollars; I have taken the whole masonry at an average of eight dollars a cubic yard, piling, I have allowed thirty cents per cubic yard, which is the same as Mr. Barrian; for timber in the work, I have allowed thirty dollars a thousand, Mr. Barrian has it forty dollars

per thousand ; for fifty-five foot span bridge I have taken 2624
sixty dollars per lineal foot, which is thirty-three hundred dollars, he gives the rate at forty-four hundred dollars.

Q. That is a small difference, give us the big differences ?

A. One hundred and five-foot span bridge, my price is \$9,660, his is \$10,500 ; his prices are higher for short spans and are lower for long spans than mine.

Q. Where are the great differences that come in the 2625
masonry ?

A. In the cost of the masonry, and the cost of embankment, and the cost for timber.

Q. How much would these items of Mr. Barrian's aggregate, at a rough guess ?

A. I could tell you, the principal difference is in the masonry, the embankment prices and the prices for white pine timber.

By Com. Clark: Q. Will you state in that connection, as to those prices, do you rely as to them upon the judgment of these other gentlemen, or do you give your own judgment ? 2626

A. In reference to masonry I ascertained the price of stone and I formed my own estimate as to the work, laying up the cost of cement, etc. ; by which I got at the cross-sum per cubic yard ; I ascertained the price they were contracting for timber at the present ; my own judgment enabled me to say how much should be allowed for putting the timber in the work ; I added that to the price of timber which gave me twenty dollars a thousand. 2627

Q. How about the embankment, they gave you what data ?

A. We estimated that we could obtain the material for embankment at a distance not exceeding fifteen miles from the city ; I took the cost of hauling that embank-

2628 ment, loading and dumping it, and from that I ascertained the price of the embankment.

By Com. Clark: Q. That is what you meant by relying upon their information as to prices, as you have stated?

A. Yes, sir; only in part upon their information.

By Mr. McAlpine: Q. How much does a yard of embankment weigh?

A. Six yards of it, which makes a car-load, would
2629 weigh about nine tons, you hauled that fifteen miles and it would cost about fourteen cents, going about thirty miles it would cost about twenty-eight cents.

Q. The difference between your price and Mr. Barrian's for the embankment is wholly made up in the haul?

A. Not entirely, within four or five cents a yard.

Q. You make fourteen cents difference in the hauling, your price is thirty and Mr. Berrian's is forty-five?

2630 A. Two fourteens would be twenty-eight, and eight for loading would be thirty-six, which would leave four cents more for dumping, in my estimate I have between one and two cents.

Q. Your aggregate price is twenty-five cents?

A. Yes, sir.

Q. And Mr. Berrian's forty cents?

A. Yes, sir.

2631 Q. And your estimate of the price of hauling, you say your estimate would have been if you had to go thirty miles, it would have been fourteen cents more, so you have made it, your whole estimate price and Mr. Berrian's within one cent?

A. I have; I have added that; a little to my estimated price of loading and dumping, to make up twenty-five cents in the first place.

By Mr. Milburn, resuming: Q. Just give us the items you get in your twenty-five cents?

A. I got fourteen cents for hauling; I allowed eight 2632 cents for loading, that is twenty-two, and then I estimated it would take about one or two cents to dump it, and then I make it in round numbers, I increase that to twenty-five cents, I add one cent per yard.

Q. That leaves you two for dumping?

A. Yes, sir.

Q. Which is a very liberal allowance for dumping?

A. Yes, sir.

2633

Cross examination, by Mr. Locke:

Q. How much do you say you allow for dumping?

A. I just stated I allowed two cents a yard, and I had a cent to spare which I threw in.

Q. How much per mile, per yard, do you charge for the hauling?

A. Take six-tenths of a cent per ton, per mile, it figures up thirteen and six-tenths cents per yard for hauling fifteen miles.

2634

Q. How far did you calculate the filling was going to be hauled?

A. Fifteen miles; I based that upon information obtained from Mr. Haven.

Q. Suppose it were to be hauled thirty miles, suppose you had to go thirty miles to get to some point on the Lackawanna road where it could be found, owing to the lay of the land through which the road runs, and the class of material required for filling, how much would 2635 you add to your estimate?

A. I would have to double the price for hauling.

Q. That would be about fifteen cents more?

A. It figures out—it don't cost over three-tenths of a cent per mile to haul it, I estimate it six-tenths of a cent to haul it.

Q. You never have done any earth filling in this part of the country?

2636 A. No, sir.

Q. How near to this point of the country have you done any earth filling?

A. I have done some in Pennsylvania.

Q. Whereabouts in Pennsylvania?

A. On the building of the Westchester and Philadelphia Railroad.

Q. Where is that?

A. That runs from Westchester to Philadelphia on
2637 which there are high embankments.

Q. That is about four hundred miles from here?

A. Yes, sir.

Q. What kind of material do you figure on eight cents per yard?

A. I understood the material was sand and gravel, material easily excavated.

Q. How much would you add, provided it were clay and hard-pan?

2638 A. I would have to add something according to the proportion of the quality of the material.

Q. How much would you add for good ordinary stiff clay, such as we have around here?

A. I think you could load it for eight cents a yard.

Q. You don't allow anything for the cost of material in that figure?

A. I inquired as to that and was advised by Mr.
2639 Haven that any quantity of land could be purchased within that distance of Buffalo not exceeding one hundred dollars an acre; it would not take a very large number of acres to furnish the material.

Q. Do you add that in?

A. No, sir; I thought we had margin enough in other allowances I made, where I thought those quantities were in excess.

Q. You spoke of your iron trestles—iron trestles are rather a hobby of yours, are they not?

A. No, sir ; not at all.

2640 .

Q. They are not a favorite structure of yours?

A. I have built a great many iron trestles and I have built a great many iron bridges.

Q. Do you think iron trestles are usually put in by engineers as permanent structures where they can be avoided ?

A. They are put in as permanent structures whenever their use is indicated as being more economical than high embankments.

2641 . .

Q. Are they ever put in except in places where the embankment cannot be well made to stand ?

A. Yes, sir.

Q. Frequently ?

A. Very frequently.

Q. And without regard to the presence of material for an earthen embankment ?

A. An engineer is generally governed by the estimates of cost ; if he finds an iron viaduct made with these iron trestles it will cost less than building an embankment where the embankment is very high, he will adopt iron trestles if he has as good a structure.

2642

Q. Is an iron trestle as good a structure for a railroad trestle as an earthen embankment—is it not subject to contraction and expansion, and all that kind of thing ?

A. All provision is made for the expansion and contraction ; there is no danger whatever.

2643

Q. Doesn't one require more care than the other ?

A. I think not if the iron trestle is properly constructed.

Q. You think it is as permanent as an earthen structure ?

A. No ; I don't think it is.

Q. What are the results of the derailment of a car upon a train ?

2644 A. The result would be about the same as on an embankment.

Q. You think if you run a car off the embankment on an earthen embankment, do you think it would throw the embankment down as quick as a trestle?

A. No, I think this: I think a train would run off the iron trestle, and that the train would go overboard; if it run over an embankment it would go overboard; the result would be the same in both cases.

2645 Q. You do not think there would be any more probable harm?

A. It is not very probable that the trestle would be injured.

Q. It would not be thrown down?

A. No; there is not force enough.

Q. There is no trouble about iron bridges in that regard, is there?

A. There is this difference, which I will explain. If
2646 an iron bridge is a deck bridge, and a train on top, and the flooring system is properly made, the train may run off the track without injuring the iron bridge at all; I have known many such instances.

Q. Have you known an instance where an iron bridge was thrown down by a train?

A. I have known several; if the train run off a deck bridge it would probably go over the bridge without
2647 injuring the deck, where the floor system is properly constructed; if the train run off an iron trestle work properly constructed, the result would be the same, the train would go over probably without injuring it.

Q. You have been over the Lake Shore and Michigan Southern Railway?

A. No, sir, I have not, but I am familiar with the accident at Ashtabula, which I suppose you refer to.

Q. No, I do not; I am referring to the general char-

acter of the structures on that road ; you call that a first- 2648
class road ?

A. It is called that by reputation.

Q. Aren't there earthen embankments ? Don't they
cross all their large gullies with earthen embankments,
with stone culverts ?

A. I have no information in regard to that.

Q. Do you know of any important trestles on the
New York Central ?

A. I am not familiar with that road. 2649

Q. Do you know of any important iron trestles on
the Erie Railway ?

A. I know of one.

Q. Where ?

A. I don't know exactly what they call it.

Q. Portage ?

A. Yes, sir.

Q. Portage is a bridge ?

A. Yes, sir, but it is built on the principle of an iron 2650
trestle-work.

Q. It is impossible to make a fill there ?

A. It is impossible ; yes, sir.

Q. There is a stream of water underneath ?

A. Yes, sir.

Q. The Genesee River ?

A. Yes, sir ; I will state in explanation of this ; on
the Cincinnati Southern Railway——

Q. Just answer my questions. I am asking you 2651
specific questions. Is it possible, or is it practicable to
fill any part of the bed of the Genesee River with an
earthen embankment where the Portage bridge is ?

A. I never have examined that locality.

Q. Do you know how high that is ?

A. I don't remember the exact height.

Q. Would it be practicable to make an earthen em-
bankment 232 feet high ?

2652 Objected to by Mr. Milburn.

Objection overruled.

A. It is practicable.

Q. How wide would be its base?

A. Seven hundred and twenty-two feet.

Q. Do you know of another iron trestle on the Erie road except that at Portage?

A. I do not; the Erie road was constructed before they commenced building iron trestles.

2653 Q. Where did you take your price for masonry in your estimate there?

A. Mr. Haven stated that he was having work done at that price.

Q. Are these papers in your handwriting?

A. No, sir.

Q. Have you added up anything there yourself?

A. I have checked all the additions.

Q. Whose handwriting are those estimates in?

2654 A. Some were copied by Mr. Grant, and some by Mr. Hawks. I think that is Mr. Grant's handwriting.

Q. And the other Mr. Hawks'?

A. Yes, sir.

Q. Have you compared the copies with the original?

A. These estimates——

Q. I ask you have you compared the copies with the original?

2655 A. I have.

Re-direct examination, by Mr. Milburn :

Q. Counsel having asked you about trestles on all the railroads that you don't know anything about, I will ask you about the iron trestles on the railroads that you do know something about?

A. I haven't a great many in my immediate reach.

Q. On the railroads which you know of?

A. On the Cincinnati Southern Railway there are

quite a large number of iron trestles that we built, the 2656
Keystone Bridge Company built five or six very long
viaducts.

Q. The thing is this, the only materiality of the
whole evidence is, is it a practical thing, and a thing in
use in railroad construction?

A. It is on a short line from New Haven to Middle-
town, there are twenty-seven high iron trestle viaducts,
and on the Cincinnati and Louisville road.

Q. On these trestles that you have mentioned as the 2657
iron structures, is there a possibility of a doubt that it is
entirely practicable as to all railroad construction?

A. No doubt whatever as to its firmness and safety.

By Mr. McAlpine: Q. When you speak of the iron
trestles as being permanent work, how long do you count
upon their lasting with an extra degree of repairs before
it would be necessary to rebuild them?

A. I stated before that I didn't suppose any of us
would live long enough to notice the deterioration of 2658
the structure if properly cared for.

Mr. Milburn: I offer in evidence all of the estimates
referred to by Mr. Linville in his testimony.

Estimates received in evidence and marked, "Peti-
tioners' Exhibits 10, 11, 12 and 13."

JAMES D. HAWKS, recalled for the petitioners and ex-
amined by Mr. McMillan, testified as follows:

2659

Q. You have been present and heard the testimony
of Mr. Linville upon the estimates made by Mr. Barrian
and also those presented and explained by himself?

A. I have.

Q. Did you assist in making up the estimates pre-
sented by Mr. Linville?

A. I did, to some extent.

Q. Have you examined those estimates yourself since
they have been made up?

2660 A. I have.

Q. What do you say as to the correctness and fairness of the estimate presented by Mr. Linville as to this over-head crossing?

A. I would state in order to sift these estimates out that the estimate marked "Exhibit 13" and the estimate marked "Exhibit 12," which refer to iron work, I had nothing to do with.

Q. You had nothing to do with those?

2661 A. No, sir; the estimate marked "Exhibit 11" and the estimate marked "Exhibit 10" were the two estimates that I helped make up.

Q. Did you also examine Mr. Barrian's estimate marked "Exhibit 7"?

A. Yes, sir.

Q. And you had that before you at the time these estimates were made, didn't you?

A. Yes, sir, we did.

2662 Q. You heard Mr. Linville's testimony in regard to the expense of drawing and filling?

A. Yes, sir.

Q. What expense would you fix as a reasonable price for drawing that distance, say fifteen or thirty miles?

2663 A. We fixed the price at twenty-five cents a cubic yard, and I would state here that I think that is perhaps too high, for the reason that this estimate provides for a trestle-work on which to run their trains, and I think that the present value of the embankment which they are to make during the next six or eight years is not twenty-five cents a yard.

Q. Explain how during intervals where there are lulls in the business it could be perfected.

A. There are two reasons for that: one is, having a trestle which is good for eight or ten years it gives the Lackawanna Company that length of time to make their

filling, and it allows them an opportunity to make it with 2664 working trains when the trains are not busy on the other portions of the road, so they can work their spare time on an embankment of this kind without materially interfering with other work. It allows them to work their trains and men to better advantage than though they were compelled to make the embankment at the present time. They would have the interest on the present money, which we have figured, during that time.

Q. And by that means they would be enabled to find 2665 employment for their men and working trains when they otherwise would be idle?

A. Yes, sir; there is a decided advantage in running construction trains, to be able to have them busy all the time. There are odd times on the railroad after it is constructed, sometimes when there is a great deal of business for construction trains, and other times when it is light, and it is an advantage to hold the organization and hold the men so as to keep the gangs full and find work 2666 for them at odd times.

Q. Have you had considerable experience in the matter of embankments in filling in cuts?

A. It is part of my duties as assistant engineer on the Lake Shore road to make estimates in cases where we are doing filling, say from Cleveland to Buffalo. All that is done by trains or done by teams, and then in addition to that I have derived considerable information 2667 from other roads now being constructed as to what they were paying for filling.

Q. As to the embankments on the Lake Shore road, they were constructed before the days of iron trestles very largely?

A. Most of the large embankments on the Lake Shore road were constructed before iron trestles were in general use, or in fact in use at all. There was no such thing. The New York, Chicago and St. Louis Road,

2668 which is in process of construction now alongside of the Lake Shore road, in crossing the same gullies, are using largely iron trestles in preference to embankments.

Q. Right alongside of where the Lake Shore had their embankments?

A. Yes, sir; over the same streams.

Q. What do you say as to the expense of drawing this filling?

A. I should figure that at about half a cent a ton a
2669 mile, which figure would be derived from experience on the Lake Shore road only.

Q. That is what it would actually cost you?

A. That is what our freight costs us per mile; in figuring freight for our own material that we use in construction in getting at the cost that the work is to be in addition to the cost of material we add half a cent per mile a ton for freight.

Q. For thirty miles that would be fifteen cents?

2670 A. For thirty miles, that would be fifteen cents a ton.

Q. Twenty-two cents a yard?

A. Yes, sir; figuring a yard of earth would weigh a ton and a half.

Q. You heard Mr. Berrian testify in regard to the change which he suggested could be made in the Lake Shore yard, or at or near this crossing, did you?

A. Yes, sir.

2671 Q. You may explain what, if any objections there are, to making the change suggested by Mr. Berrian?

A. As I understand his proposed change of the Lake Shore yard it was to do the switching that is now being done over the Erie crossing, at the north end of the yard, and putting in a system of connecting tracks coming in parallel with the Erie tracks.

Q. Coming in parallel with the Erie tracks where, in what direction?

A. North of Elk street.

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Q. East of the transfer-house?

A. Yes, sir ; he made several propositions as being indicated on this map in lead pencil line crossed frequently by short pencil lines and curves, which would meet these requirements to connect the north end of the yard, as we propose, with tracks parallel with the Erie track north of Elk street, crossing Elk street at the Abbott road and then Elk street again. The objections to a scheme of that kind would be, while it would take the switching from the throat of the yard at the Erie crossing, it would put the switching in a worse place for the Lake Shore to handle than it is at the Erie crossing ; it puts it into the north end of the yard close to our coal docks and engine houses, where the engines go in and out of the house and into the coal docks, and would very much complicate this system of tracks. When the switching would be done over Perry street and Scott street and Fulton street which is now done down at the Erie crossing without any street crossing. In addition to that, trains coming in here have on the front end of the train, they have the through cars destined for East Buffalo. The cars that are to be switched out, on the back end of the train, the through cars are cut off and go to East Buffalo. If the switching was done in the north end through cars would have to be on the south end and would have to wait there until the switching is done on the forward end of the train, and then be taken to East Buffalo.

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Q. What objection is there to waiting, if any ?

A. Simply to increasing the blockade of the yard ; it increases the block which already exists in the yard, and delays their business so much.

By Com. McAlpine: Q. If such a train comes in could you not cut loose the East Buffalo cars and go on with them immediately ?

2676 A. No, sir; his suggestion was to have the cars at the north end of the yard towards the engine-house; that switching would necessitate the running of numerous tracks around parallel to this track, done by the cross lead pencil line; that track is only about a thousand feet long; that we call number one track; every succeeding track that comes out of that is decreased; allowing for a switch at each end it would decrease the available length of each one of these tracks by
 2677 double the length of the switch to the frog, and from the frog to the clearing point beyond, which would reduce the length of each track by about 250 feet; so number one track would be one thousand feet long, and would hold thirty cars; number three would be five hundred feet long and hold, say, eighteen cars; number four would be 250 feet long and would hold eight cars; so the fourth track would only hold four cars, and the fifth track, if it is possible to run any track there,
 2678 would not hold any, and the aggregate of these tracks with that system would not begin to hold the cars necessary; with that system it would be impossible for the Lake Shore to get permission from the city to have any more tracks there, as Elk street is the thoroughfare for all business from the surrounding country there; these tracks would run parallel and in the Abbott road.

Q. They would run longitudinally in the Abbott road?
 2679

A. Yes, sir, and would cross Elk street; those would make a large amount of right-of-way necessary in here, north of Elk street, in order to do the transfer business at that point.

Q. How could you stand cars on the Abbott road and Elk street?

A. It would be impossible to do anything of that kind; we have the Elk street crossing now; two minutes' detention at Elk street and there is a collection of

teams on each side very impatient to cross; if there is a 2680
prospect that a team is to stand two or three minutes at
the crossing, that train is cut; that is a very important
thoroughfare, Elk street is; Fulton street, Perry street
and Scott street are not through streets, but the Abbott
road and Elk street are through streets leading into the
country; I have used a radius here of about nine hun-
dred feet which would be about a seven-degree curve or
a little over, an objectionable radius to operate cars on,
switching about the yard; just strike out that part of 2681
the answer, Mr. Stenographer, I have used a radius of
450 feet, I would say about a thirteen degree curve,
which is an objectionable curve to do switching on; so
I think that scheme, in my estimation, would be imprac-
ticable; in the re-arrangement of the old yard it re-
quires very much time and very much study, and a con-
sultation between the officers of the two roads; the
existing circumstances have to be taken into considera-
tion, and it is not the work of a day nor a week nor a 2682
month to re-arrange an existing yard to the best advan-
tage.

Q. Have you any experience, especially in that direc-
tion, of the re-arrangement of yards? if so, state where.

A. I have had considerable experience in re-arrang-
ing existing yards or old yards in order to get increased
business, and in order to get better facilities for doing
work; I have recently re-arranged the Cleveland yards 2683
at Cleveland, Ohio, and that re-arrangement was deter-
mined upon after some years of study and conference
between the officers of the Lake Shore Road and the
Cleveland and Pittsburgh Road; after the drawing of
quite a number of different plans by each company, and
these plans were altered and modified at the suggestion
of the different officers; there is another objection that
is very difficult to prevent interfering with the business

2684 of the old yard while building the new yard and connecting with the old system.

Cross examination, by Mr. Locke :

Q. Would it make any difference in the yards provided you changed the making up of your trains before they came to Buffalo ?

A. I don't understand that we could make up our trains in any different shape for doing our business than 2685 we do at present.

Q. Is there any practical difficulty in putting the east-bound cars at the rear of the train ?

A. Yes, sir.

Q. Is there any practical difficulty if the switch is put on this curve that is marked here in having a long switch run back parallel with the existing transfer-house ?

A. Yes, sir.

2686 Q. You could not get across ?

A. No, sir ; it would make a complication about the crossings here, and I do not think it would be practicable as a working arrangement.

Q. Couldn't you bring your cars, starting on Fulton street, on a switch down alongside by the Erie road, and then run them by on the existing tracks, by the transfer-house ?

2687 A. Supposing it would take one track to do that——

Q. Couldn't you do that ?

A. How many tracks ?

Q. Couldn't you do that, I ask you ?

A. Outside of the question of obtaining for using the streets from the city it could be done, but to a decided disadvantage, and would not be a practical working arrangement.

Q. I understand you now to say your east-bound cars

via the New York Central are put at the head of your 2688 trains?

A. Yes, sir.

Q. Those are not switched backwards and forwards?

A. No, sir.

Q. Those go to East Buffalo?

A. Yes, sir.

Q. Didn't you testify when you were on the cars before that your east-bound cars by the Central came all mixed up with your trains?

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A. I don't think I did.

Q. And you had to pull the east-bound cars and everything else backwards and forth over the Erie crossing?

A. I think I testified that we had to pull everything back and forth there but the East Buffalo cars.

Q. All that you have to put over the Erie crossing, then, is the cars that go over the Erie road?

2690

A. No, sir.

Q. You don't have to pull the cars that are destined over the New York Central crossing over the Erie crossing?

A. I don't understand that we pull the New York Central cars over that crossing.

Q. So you think there would be no re-arrangement of tracks in that yard?

A. I don't state that, exactly.

2691

Q. You think there could, then?

A. I should only be able to answer that question after a more thorough study of the situation; what I say, is——

Q. You have not considered the question as to what changes are feasible, have you?

A. I have not had any opportunity to do that.

Q. And you are not willing to say that no changes

2692 are feasible in that yard, with your existing property, are feasible?

A. No changes that would help the matter of switching over the Erie crossing or from my standpoint feasible with the land that we already own.

Re-direct examination, by Mr. McMillan :

Q. This bridge over the Buffalo Creek is not a swing-bridge?

2693 A. No, sir.

WILLIAM A. HAVEN, recalled for the petitioners and examined by Mr. McMillan, testified as follows :

Q. Have you examined these estimates that have been presented here by Mr. Linville?

A. Yes, sir.

2694 Q. Did you also take part in making up of certain of those estimates?

A. I took no part in making up the quantities; I assisted Mr. Linville in certain data as to getting prices.

Q. I will ask if those were the estimates marked "Exhibits 10 and 11" which you assisted in, the embankment work, and all that?

A. The embankment, timber and masonry.

Q. But not the iron?

A. No, sir.

2695 Q. The Erie Railway is doing a good deal of constructing just at the present time, is it not?

A. It is.

Q. And has been for some time past?

A. For the last two years.

Q. What is your construction account per month at the present time under your supervision and charge?

A. The last two months it was about sixty-six thousand dollars.

Q. Sixty-six thousand dollars a month?

A. Yes, sir.

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Q. It runs on an average at what?

A. During this year it will average about sixty thousand until about July and August, and then it will gradually reduce, to November and the first of December, to nothing.

Q. That work that is being done is what sort of work?

A. It is construction of railroads, new construction.

Q. I mean embankment work?

2697

A. Yes, sir.

Q. And filling?

A. Yes, sir; masonry and timber work.

Q. Is it the same class of work that is contained in this estimate?

A. With the exception of the iron trestle.

Q. And is that the sort of work you are passing upon every month?

A. Yes, sir.

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Q. Was it from your experience of prices in this work of your own that you reached the prices which are contained in this estimate?

A. Yes, sir.

Q. What do you say as to those prices?

A. They are very fair prices.

Q. That is the twenty-five cents for filling?

A. Yes, sir, to be done in the way that Mr. Barrian stated in his testimony yesterday, in the course of seven or eight years.

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Q. To have the trestle built and then to do their filling?

A. Yes, sir.

Q. From this experience, you say the prices that we give there are all fair prices, except the iron work?

A. Yes, sir; prices for which this work could be contracted for to-day.

2700 *Cross examination, by Mr. Locke :*

Q. How much haul do you figure in that price?

A. About fifteen miles.

Q. How much do you think it would cost per yard to get the earth at the nearest accessible point and construct that embankment at the present time, without any railroad there?

A. Simply an embankment—just haul the dirt up.

2701 Q. Get it from the sides, or draw it, what you could not borrow, have you made any figures on that?

A. No, sir.

Q. Are you making any fills now with a haul of fifteen miles?

A. We are making—we are hauling some dirt from Alden; not very extended.

Q. Do you haul it clear around to the dock tracks?

A. No, sir.

2702 Q. You stop way out here to East Buffalo?

A. Some goes there, and some goes to Black Rock.

Q. You haul that fifteen miles?

A. Yes, sir.

Q. What is that, gravel?

A. Sand.

Q. Not used for ballast?

A. No, sir.

Q. For filling?

2703 A. Yes, sir; for filling.

By Mr. Milburn: Q. I would like to ask you, you have estimated the value of this embankment at twenty-five cents a yard; was that based upon what Mr. Hawks stated, that it was to be distributed over a period of seven years, and to be done under the advantages of using the construction trains, or was it the fair value of putting in the embankment hauled a distance of fifteen miles, and done immediately, as speedily as it can be judiciously done?

A. No, sir ; Mr. Barrian yesterday stated, in making 2704 his estimate, he made an estimate for a permanent trestle-work, and that they would doubtless fill up the embankment from time to time as they had occasion to, and by so doing he could lessen the cost very much, very materially.

Q. The precise question I was asking, was whether you based your estimate of twenty-five cents per yard upon spreading it over a period of six, seven or eight years, the life of a trestle-work ? 2705

A. Yes, sir.

Q. How much would it be worth more to do it as speedily as it could be done, putting on special trains for the purpose and working to the most judicious advantage and hauling fifteen miles ?

A. It would be about ten cents a yard more ; it would be worth about thirty-five cents a yard.

Q. The profile of the Lackawanna road showed a cut within that distance, within twelve miles of Buffalo ? 2706

A. Within twelve or thirteen miles.

Q. Do you know what sort of material the earth is there ?

A. Judging from our grounds and the Central north of it, the Erie road south of it, I should think it was sand ; I don't know anything about it, of course ; it is easy to be excavated with a steam shovel.

Q. What would be the value of land at that place—the cost of it—if you wanted to buy it ? 2707

A. At the outside two hundred dollars an acre.

Q. And how deep could you cut it ?

A. Twelve or fifteen feet.

Re-cross examination, by Mr. Locke :

Q. If it turned out that that cut which you referred to consisted of quick-sand or hard-pan, would you say that it was suitable place to get your filling ?

2708 A. If it was quick-sand or hard-pan I would not say it was a suitable place ; I would take clay.

Q. Would you take quick-sand ?

A. I don't think I would excavate that.

Q. How about hard-pan ?

A. Nor hard-pan.

Q. Have you ever been in that cut, made any test there, or anything ?

A. No, sir.

2709 Q. Have you seen the test-pits that exist there now ?

A. No, sir.

By Com. McAlpine : Q. Such a cut as that, the land worth \$150 or \$200 an acre, what is the cost of material in place ?

A. From a cent to a cent and a half per yard.

By Mr. Milburn : Q. I want to understand more definitely about your saying that if they went to work to do this filling at once, that it would cost so much more ;
2710 do you mean that if they rushed that filling so as to get it done as soon as possible, that that would be a condition under which the cost would be larger ?

A. If they would do it this year.

Q. Suppose that they built their trestle there and then filled in their embankment during the next year or eighteen months, what would you say as to the price ?

A. Twenty-five cents a yard.

2711 Q. An increase of ten cents, if they went in to get that while the thing was done right off ?

A. Yes, sir.

Q. That they would necessarily increase the expense of it ?

A. Yes, sir.

Q. I would like to have your opinion as to the effect of a road elevated upon an iron trestle on the property adjacent to the streets, as to the effects of a railroad run-

ning at grade there, which do you think would injure 2712
the streets less, and the lands, and your reasons for it?

A. I should think an iron trestle would injure it less
for the reason it would give free access to every lot,
under the trestle, every part of every lot, not only on
the streets, but if a man wanted to cross over from one
part of his lot to the other part of his lot, he could go
under the trestle.

By Com. Clark: Q. Suppose the railroad company
should object to it? 2713

A. With a grade crossing they could only cross at
the streets at any rate, and there would be a chance that
they could go under the trestle work; they could see
from one part of the lot to the other without any trouble.

Q. There would not be any special interference with
light with this iron trestle?

A. Very slight.

Q. Do you think that a structure like that, a well
built structure, such as has been described here, of iron, 2714
would lessen the value of the real estate in the neighbor-
hood of these various streets as much as a railroad going
over them at grade, in view of the fact that it is property
applicable to the residents, the working class?

A. I don't see why it would lessen the value of real
estate a particle.

Q. Do you see any reasons why it should depreciate
that property more than a crossing at grade, and all the
dangers incident, say to children and people in these 2715
streets?

A. Ask that question again, please.

Q. Take this crossing at grade, and are there any
special dangers in connection with the people and chil-
dren living in the vicinity, in connection with those
grade crossings, that make them more dangerous to
property, less available than if the trestle was an iron
trestle, and the trains crossing over-head?

A. Certainly so.

2716 *Re-cross examination, by Mr. Locke :*

Q. Do you own any real estate there ?

A. No, sir.

Q. Have you gone to look over this matter with any particular reference to this matter ?

A. In the matter of making an iron trestle there ?

Q. Yes, sir.

A. No, sir.

Q. How long since you have been on Alabama street
2717 where this road crosses ?

A. During the month of June, I don't know when.

Q. Have you been there frequently ?

A. No, sir.

Q. Do you own any real estate in the city ?

A. No, sir, not any.

Q. Do you own any in the State ?

A. No, I don't own any in this State.

Q. You never did own any ?

2718 A. Oh, yes, sir.

Q. You don't now ?

A. No, sir.

Q. Is the operation of an iron trestle accompanied with any noise or racket ?

A. Not any more than a road at grade.

Q. Haven't you heard complaints against the elevated roads in the city of New York on account of the noise ?

2719 A. Yes, sir.

Q. You think the noise is no greater on account of the elevation of the tracks than if it were on an earthen embankment ?

A. Not any more than an earthen embankment approaching a grade crossing.

Q. How would the noise compare with the operation of a track on a grade crossing, or an embankment, or an earthen embankment ?

A. The noise of the simple passing of the train and

ringing of the bell or operation of the road, I think 2720 there would be more noise on the grade crossing.

Q. Which would be the noisier, the operation of the road on the iron trestle, or on the earthen embankment the same height?

A. Possible a little more noise on the iron trestle, I don't know as it would be much.

Q. Do you know anything about the devices that are adopted to deaden the noise on the elevated road in New York? 2721

A. It is so near the brick wall there is a great deal of reverberation, no, sir, I don't know the devices.

Q. I suppose you have built a good many iron trestles?

A. I never built one in my life.

Q. Would the filling of the trestle in your judgment after the operation of the road commenced be attended by any delay to trains?

A. Not necessarily. 2722

Q. You think that cars could run fifteen miles an hour and skip in between times and take advantage of one thing and another without being interfered with?

A. With a double track railroad.

Q. You would not anticipate any delays in consequence of that?

A. No, sir.

Q. Would the regular trains be apt to be delayed any by the use of the construction trains filling that trestle? 2723

A. I don't think they would.

Q. They could be managed and arranged by head-work?

A. Yes, sir.

Q. I suppose no such degree of care and attention could lessen the delays that you testified to down at this grade crossing?

A. No answer.

2724 Q. Do you think a construction train could run in there and fill that trestle without being delayed?

A. That the construction train could run in there and fill that trestle?

Q. Yes, sir?

A. Yes, sir.

Q. You think it could be run in there and without being delayed?

A. Yes, sir.

2725 Q. And still keep out of the way of passenger trains?

A. Yes, sir.

Q. Will you explain how you would run that construction train in there with a road in operation, without having to hold on for passenger trains, and pay the expenses of your operators while you are waiting?

A. Trains being run by the train despatcher, they regulate this in the despatcher's office, or the superintendent, to run in between the trains without any trouble.

2726 Q. It would have to wait?

A. Not necessarily.

Q. You think it could keep on making regular trips in connection with the business of the road?

A. Yes, sir.

Q. Passengers and freight?

A. Yes, sir.

Q. If they were delayed, the wages of the men and
2727 train expenses would add largely to the expense of the filling up of the trestle?

A. Yes, sir; slightly.

Re-direct examination:

Q. Is that a thing of very common occurrence, that you are running the construction trains without delaying the running of the other trains?

A. It is common, sir.

Q. Didn't you examine all this territory west of the

Lake Shore over which the altered route goes, with 2728 special reference to that route?

A. Yes, sir.

Q. What does it indicate?

A. It is a profile of the Erie International line, or Erie and Niagara Falls line; the Falls branch, as they call it, from William street, or a little south of William street, to a little north of Batavia street, showing the surface line of the ground and the New York Central track, and the grade line, or the top of the trestle; the 2729 face of the rail of the Erie railway; the bottom line, the uneven line, being the ground line, and the straight lines being the grade lines covering a distance of about a mile.

Q. That is a wooden trestle?

A. Yes, sir.

Q. The same one that has been spoken of here?

A. It is a wooden trestle over the Central Railroad.

Q. The point here near station sixty, what is that?

A. That is the north end of the trestle, where the 2730 trestle ends at Batavia street, at the south edge of Batavia street.

Q. And is that the point where testimony was given yesterday as to the elevation of Batavia street, some six or seven feet to bring it up to the grade of the crossing?

A. Yes, sir.

Q. This little opening or culvert here, what is that?

A. A little elevation above the natural surface, as the 2731 old road-way.

Q. The old Conhocton road-bed?

A. It belongs to the Central Railroad.

Q. That is crossed over by what?

A. By an embankment; Batavia street was raised, the grade at that point of Batavia street was raised about seven feet.

Q. Has there been a proposition between yourself as

2732 engineer at Buffalo, and the engineer of the Central, to make some modifications here at this point?

A. There has been a talk; it has been seriously considered by both parties; our grade from Batavia street, going north, runs up over a summit, quite a summit; it has been proposed to make a uniform grade from the summit to the top of the trestle, so as to run over the old Conhocton railroad at that point.

Q. That is simply a road-bed there?

2733 A. Yes, sir.

Q. And, as you understand it, a road-bed belonging to the Central, and upon which they desire to lay down a track?

A. Yes, sir.

Q. And have they proposed to pay the expense of constructing this trestle out here with a view of giving them that under-crossing at that point?

2734 A. Mr. Fisher, their chief engineer, said they would probably do that. It was seriously contemplated by them to do that. The proposition has not yet been made by them; they merely sounded us to find out whether we would consider that proposition. I told them that we would consider it very seriously and would be willing to meet their requirements.

(Profile referred to marked "Exhibit 16.")

Q. Just give us fuller details in regard to the trestle?

2735 A. The bents at that point were originally made sixteen feet, I think, they are now twelve, it being a single track trestle and made of hemlock posts and sills and caps, and pine stringers. The trestle was made in 1870, I think.

By Com. McAlpine: Q. It has not been renewed since?

A. It has not been entirely renewed, it has been repaired and kept in order.

By counsel, resuming: Q. Now, the height?

A. The grade on each side is at the rate of 50.80 per 2736 mile from William street, running north, and from the Central railroad running north, descending.

Q. And the height at the Central crossing ?

A. Twenty feet and four-tenths from top of rail to top of rail.

Q. Giving how much clear ?

A. About eighteen feet, Mr. Chanute informs me, I haven't got it exactly.

By Com. McAlpine: Q. How high is the truss above 2737 the ground at the Central road ?

A. Well, that would make it, the Central road is about two feet above the ground there, and from their grade it is about eighteen feet to the bridge.

Q. It is about twenty-two feet above the ground, then ?

A. Yes, sir, it is about twenty-two feet above the ground.

2738

Cross examination, by Mr. Locke:

Q. Have you ever measured the height of that clearance under your trestle, from the rail of the Central track ?

A. Yes, sir, I have measured it two or three times from time to time.

Q. Will you testify that it is more than eighteen feet ?

A. No, sir ; I won't testify that it is more than eighteen feet. 2739

Q. You think it is eighteen feet ?

A. I think it is exactly eighteen feet.

Q. And the statement that it was nineteen feet was an error, if it has been made here ?

A. That I would not be willing to swear to here.

Q. If it is only eighteen feet ?

A. If it is only eighteen feet.

2740 Q. And you think the testimony already given on that subject, if different from that, is erroneous?

A. Yes, sir.

Q. Now, you are acquainted with all these railroads coming into Buffalo, the general railroad system in Buffalo, are you not?

A. In a general way, yes, sir.

Q. Now, mention the points in the city of Buffalo that you can think of where one railroad intersects another at grade, and see if this list that I have made of
2741 them is correct, as you understand it?

A. The Buffalo, New York and Philadelphia Railroad crossing the Erie is a grade-crossing; the Alabama street crossing of the New York Central and Erie; the crossing known as the Compromise tracks of the Lake Shore and Erie: the Sandusky street, Erie and Lake Shore; the Buffalo Creek Railroad on the Erie; the Buffalo Creek Railroad and the Lake Shore; the New
2742 York Central, or a branch of that, by the Erie International; the Erie and New York Central at Suspension Bridge, that I don't know anything about. The Buffalo, New York and Philadelphia over the New York Central, at Emslie street, so-called; the Buffalo, New York and Philadelphia with the Erie at Olean, some miles south of here; the Buffalo Creek Railroad with the Buffalo, New York and Philadelphia.

2743 Q. That makes ten?

A. Ten grade-crossings and one over-crossing of the Erie International by the New York Central.

Q. Now, you know of but one over-crossing?

A. I know of but one over-crossing.

Q. Now, take the Buffalo, New York and Philadelphia crossing of the Erie, all the tonnage of the Philadelphia road crosses you?

A. All the tonnage of the Buffalo, New York and

Philadelphia crosses that, I think, except what goes down 2744 over the Buffalo Creek.

Q. And all the Erie tonnage crosses it, don't it, that comes west to Buffalo, or goes west of Buffalo by the Lake Shore?

A. Yes, sir.

Q. And over-crossing number one, all the tonnage of the Buffalo, New York and Philadelphia crosses, except what goes to the Buffalo Creek?

A. Yes, sir; except their coal tonnage, which goes to 2745 the Buffalo Creek.

Q. Can you give me the tonnage figures?

A. No, sir.

Q. Can you give me the tonnage of the Erie?

A. No, sir.

Q. Now, take the Alabama street crossing of the N. Y. C. & H. R. R. R. and Erie, all the passenger business of the N. Y. C. & H. R. R. R. and all the freight business that goes by the Lake Shore, or west from Buffalo by water, crosses that track, does it not? 2746

A. All the passenger business of the N. Y. C. & H. R. R. R. which comes from the East.

Q. Or goes to the East?

A. Or goes to the East; and all of their city freight business.

Q. And Lake Shore business?

A. No, sir, not the Lake Shore business; their business that goes to the West by water. 2747

Q. Crosses there?

A. Except some of their coal business, a very small thing which goes by the Buffalo Creek Railroad.

Q. Every pound of freight that comes in by the New York Central Railroad, and which comes to Buffalo or west of Buffalo by the Lake Shore, or by water, crosses other tracks at grade, does it not?

A. Yes, sir, but it does not all cross that crossing.

2148 Q. Then the entire tonnage of the Central road crosses the intersecting roads at grade within the limits of the city of Buffalo, except such as goes to the International Bridge?

A. Yes, sir.

Q. Well, that crosses also; the International Bridge crosses your tracks?

A. No, sir, not all of it; the International Bridge line does not cross any road at grade.

2749 Q. Every other pound of the N. Y. C. & H. R. R. R. does cross the intersecting road at grades?

A. Except that which goes over the International Bridge.

Q. Now, number three is the Alabama street crossing of the Compromise tracks?

A. By the Erie, yes, sir.

Q. On that crosses all the business which is delivered to the Lake Shore by the Central, or to the Central by the Lake Shore?

A. That I don't know, but I think it does; it has been so testified in the case, all the freight business.

Q. Number four is the Sandusky street, and we have had that explained; all the east-bound and west-bound freight business and passenger business of the Lake Shore Road crosses those tracks at grade?

A. Yes, sir.

2751 Q. And all of the Erie Railway freight destined for the West by water?

A. Except their coal—except a portion of their coal.

Q. Except a portion of their coal, crosses there?

A. Yes, sir.

Q. And all the Delaware and Hudson Canal Company's coal crosses there?

A. Yes, sir.

Q. Number five, the Buffalo Creek crossing of the Erie?

A. That was the last one that was put in about two 2752 years ago.

Q. All the traffic of the N. Y. C. & H. R. R. R. which goes around to Buffalo River on the Buffalo Creek road, crosses the Erie at grade there?

A. Yes, sir, and so little used that they stand freight cars on the main track between the Erie and Central a half a day at a time.

Q. But all that does go across, all that connects with Buffalo River? 2753

A. All that goes on the Buffalo Creek Railroad from or to N. Y. C. & H. R. R. R. crosses there.

Q. Now, all of the Erie traffic crosses that crossing, doesn't it?

A. Well, all the Erie traffic, except that which goes by the Buffalo Creek Railroad, and the Buffalo and Jamestown branch, the southwestern branch of the Erie crosses there.

Q. Now, since the Buffalo Creek crossing of the Lake 2754 Shore, all the traffic of the Lake Shore crosses that at grade, doesn't it—passenger and freight?

A. I think it does.

Q. All the traffic of the Buffalo Creek Road, except such as it receives from the Lake Shore, crosses there?

A. Yes, sir, everything that comes from the lake.

Q. On number seven all of the Erie Railway traffic destined for the International Bridge crosses the N. Y. 2755 C. & H. R. R. R. Y, does it not?

A. It crosses a single track of the N.Y.C. & H.R.R.R. which connects Niagara Falls, or Lockport, or Tonawanda, with East Buffalo.

Q. And then goes on to number eight and passes what?

A. Then at number eight it crosses a double-track railroad of the N. Y. C. & H. R. R. R. which runs from Black Rock to Niagara Falls.

2756 Q. Now, number nine, the B., N. Y. & P. crossing of the N. Y. C. & H. R. R. R. at Emslie street, all the city-bound freight, all the passenger business of the B., N. Y. & P. crosses this track of the N. Y. C. & H. R. R. R. there?

A. I don't know anything about that.

Q. Don't you know that there are depots at Louisiana street?

A. Yes, sir.

2757 Q. Their passenger trains run to their depot, don't they?

A. I suppose they do.

Q. All the Central business not destined for the International Bridge, and not destined for the Buffalo Creek road, crosses that crossing?

A. They twist around in so many places, I can't say.

Q. Don't all their passenger trains from and to the east, cross that crossing?

2758 A. Yes, sir.

Q. All the freight that goes to the Lake Shore crosses it?

A. Yes, sir.

Q. All their city freight crosses it?

A. Yes, sir.

Q. All their freight going west by water, by the Western Transportation Company, crosses it?

A. I think it does.

2759 Q. The B., N. Y. & P. crossing of the Compromise tracks?

A. That I don't know anything about.

Q. The B., N. Y. & P. crossing of the Erie, at Olean, fifty miles from here?

A. Yes, sir.

Q. All the Erie traffic between Hornellsville and Salamanca, between Hornellsville and Dunkirk, crosses that road, does not it, at grade?

A. Yes, sir.

2760

Q. All the B., N. Y. and P. traffic crosses that crossing?

A. All the through business, yes, sir; a single track both lines.

Q. The Buffalo Creek crossing of the B., N. Y. & P., that is about the same as the Buffalo Creek crossing of the Erie Railway, is it not?

A. Yes, sir; only less business on it.

Q. And so of all these crossings which you have been 2761
able to mention, only one is an over-head crossing?

A. Only one.

Q. Now, is not ninety-nine per cent., in your judgment, of all the freight and passenger business which comes to or goes from the city of Buffalo, carried over a grade-crossing?

A. I don't think it is.

Q. You think the Erie International is over one per cent. of the entirety? 2762

A. I think so; I don't know anything about it, but I think so.

Q. Doesn't it make five per cent., one-twentieth of the entire traffic of all the roads coming in here?

A. I don't know anything about it.

Q. Have you not any judgment about it, any opinion?

A. I don't know; there is an immense business there all the time, and cars crossing continually.

2763

Re-direct examination, by Mr. McMillan:

Q. With the exception of the Buffalo Creek crossing of the Erie, which was put in at the time the Erie became interested in that road, have any of these other crossings which you have mentioned, been constructed or made within the past seven or eight years?

A. Most recent grade-crossings that I call to mind now, were made in 1874.

2764 Q. And all the others previous to that time, with the exception of the one crossing, the Buffalo Creek with the Erie?

A. Yes, sir.

Q. And the Buffalo Creek and Erie crossing was a crossing that was put in after the Erie became interested in that road, and had a partial control of it?

A. Yes, sir.

2765 JAMES S. LYON, sworn on behalf of the petitioners, and examined by Mr. Milburn, testified as follows :

Q. You are a real estate agent in this city?

A. Yes, sir.

Q. For how many years has your business been connected with the management and sale of real estate?

A. Thirty years.

2766 Q. That time has been pretty constantly devoted to real estate in the city of Buffalo, and selling it and renting it, ascertaining its value, and studying it generally?

A. Yes, sir.

Q. Have you made an examination of the locality that we have up in this case, say from the neighborhood of the Buffalo Creek to Alabama street?

A. Yes, sir.

2767 Q. Was your examination of that territory made with special reference to the effect of the railroad, the Lackawanna Railroad, here upon it, as property, as real estate?

A. Yes, sir.

Q. Of course you were well acquainted in that region prior to that time?

A. Yes, sir.

I show this map, "Exhibit No. 4." (Presents map to witness.) Q. Taking the property west of the Erie and Lake Shore intersection, what is your judgment as to the comparative effects upon that property, of the Lack-

awana crossing it at the grade of the other railroads, or 2768 crossing it on an iron trestle, say in the neighborhood of twenty feet high, fifteen, sixteen, eighteen or twenty feet high, what would be the comparative effects; which, would you think, would injure that property least?

A. I think trestle-work would injure it least.

Q. Will you give us your reasons for that judgment?

A. The land is all low, an embankment there would produce ponds and puddles, stagnant water; there is no drainage down there, and I think another advantage 2769 would be raising it above the grade, so that the gamins there would not be stealing rides on the freight.

Q. So that the streets can be traveled without crossing the tracks of a railroad?

A. Well, that would be another advantage.

Q. All that property is used for residences of the working class?

A. Yes, sir, all a cheap class of buildings.

Q. About what is the value of buildings put up there? 2770

A. Oh, they are buildings from two hundred dollars; I don't think I saw any of them that would cost over a thousand dollars to build.

By. Com. McAlpine: Q. Mostly wooden buildings?

A. Entirely wooden buildings; I don't think I saw a brick building there.

By counsel, resuming: Q. And largely occupied by families?

A. Yes, sir. 2771

Q. By men working on railroads, or working at other kinds of labor, occupied by them and their families?

A. Yes, sir, entirely a laboring population.

Q. Taking that purpose to which the land is devoted there, dwellings of those classes, and which would interfere with it least, affect its value least, a crossing on this trestle, or a crossing at that locality, and all of those streets at grade?

2772 A. Crossing the trestle would be least injurious in my judgment.

Q. It would affect the value of the property least?

A. Yes, sir.

Q. The trestle-work is open and does not obstruct the view, or prevent free communication from each side of it?

A. Yes, sir.

Q. And that is a fact which would give it a superiority over a grade crossing, or any kind of embankment?

A. Yes, sir.

Q. Now, taking this yard property on the other side East, and between that and the Buffalo Creek, taking these lots, 183, 182, 181, 180, now, I will ask you if their lines, laid out as represented on this map, if that would'nt practically appropriate the whole of those lots to railroad purposes, and destroy them for any other purpose?

A. Well, it depends upon what other purposes you would require to use them for.

Q. Take them at grade on such embankment as the Lackawanna people have, taking that property just as it is represented there on this map, "Exhibit 2," taking the Lackawanna lines as made out by them, does that, so for as 182, 181, 180 are concerned, practically appropriate them?

A. Well, I can hardly answer the question in that form, of course it appropriates that that it takes, and leaves the balance to be appropriated if it is necessary.

Q. Take the balance that is left there; that is common land now, is it not?

A. Yes, sir, it is only used for pasture.

Q. If their line is cut through as that represents, what could you apply the unappropriated portions to—what purposes?

A. Oh, in my judgment, they will be used in the future for manufacturing purposes.

Q. Would there be enough, take for instances Box's 2776 lot, would there be enough there?

A. Oh, for certain kinds of manufacturing establishments, yes, sir, some would require more, you know, but they are these small establishments.

Q. And this space intermediate the two tracks?

A. That would be comparatively worthless.

Q. Take this part fronting on what is called Sandusky street laid out on the map; that would leave a frontage?

2777

A. Well, the railroad, that to such an extent, that they should pay for the value of the whole lot.

Q. So that taking that lot, 181, there would practically be little left of much value after those lines are laid out?

A. Yes, sir.

By Com. McAlpine: Q. After the two lines as proposed by the Lackawanna railroad are constructed?

A. Yes, sir.

2778

Q. Now, generally, as to all the property lying east of the Lake Shore, and running in the direction of the Buffalo River, I should like to know the comparative effects upon the value of the property, if an embankment for a railroad, say between seven and nine feet high, and of, say an iron trestle, taking the railroad up seventeen to twenty feet, as the case might be?

A. I should say that the trestle-work would be the preferable thing to make there, so far as the value of the land is concerned.

2779

Q. That the trestle-work would affect the value of the surrounding lands in their usefulness least?

A. Yes, sir.

Q. The kind of trestle I am referring to is, where every alternate thirty feet is open so that teams could pass, and every other thirty feet is cross-braced so that

2780 only individuals could pass; taking that kind of trestle, and does your answer apply?

A. Certainly, yes, sir.

Q. The iron trestle-work that has been described here, is that of iron piers in a vertical position, four at each end, and then horizontally lying on that, of course the iron bed for the railroad, then every alternate thirty feet is completely open?

A. Yes, sir.

2781 Q. Then the alternate thirty feet has iron braces over, leaving only half the space open, taking that as a fair description of an iron trestle, does your answer still apply?

A. Yes, sir.

Q. Now, as between an embankment seven to nine feet high and an embankment as high as the trestle-work that I have described to you, what would be your answer to the same question put to you calling for a
2782 comparison?

A. I should say that the lesser embankment were preferable.

Q. Could you express in figures of depreciation, the effect, the comparative effect of the two embankments on the adjoining lands?

A. Oh, no; I could not intelligently.

Q. What would you say, giving an approximation, supposing an embankment is run through there at that
2783 height on this line?

A. Well, I should say it would be fifty per cent. more on a high embankment than a lower one.

Q. Now, would that depreciation occur to the land in the immediate vicinity of the embankment?

A. I have my mind now upon this land across the railroad there, between that and the Buffalo Creek road. Does that question apply to that east of the Lake Shore?

Q. What I want is, if that applies to the land in the 2784 immediate vicinity of the embankment?

A. Yes, sir.

Q. Now, take for instance—there is marked on map “Exhibit 4” this lot of Mr. Locke’s, which is bounded by lots 177, 176, 175 and 179, and the Buffalo River; now take it that on this red line marked *A* on this map, running through that lot, and embankment 17 feet high, or 18 feet high, as the case may be, is built?

A. Yes, sir.

2785

Q. The other instance is an embankment seven or eight feet high built; now would your answer say that the whole value of that lot is depreciated fifty per cent.?

A. Well, I can hardly say how far that damage would extend.

Q. There is the Buffalo Creek road running through the lot now; now, it does not interfere with his water-front except at that point, does it?

A. I should judge not.

2786

Q. So that this entire water-front is left unaffected except where it is bridged by this railroad?

A. Yes, sir; but then that cuts them off the use of that bed-road; virtually it raises a big embankment between the Abbott road and the available part of his lot for business purposes.

Q. Now, assuming that access is had by a proper quantity, and properly constructed under-crossings of sufficient height and sufficient number to this Abbott road for this property, would there be anything like that depreciation then? 2787

A. Not to the whole extent of the lot; but I should say for the distance of a hundred feet, anyway, on each side of the embankment it would depreciate to the amount of fifty per cent.

By Com. McAlpine: Q. What is the present value of the property which you have just been describing?

2788 A. It is worth, that land there, all the way from five hundred to a thousand dollars an acre, all the land on either side of that track ; the average of land along there would be eight hundred dollars an acre, from the Abbott road, I mean, the back lots.

By Com. Clark : Q. It is worth more on the Abbott road, is it not ?

A. Yes, sir.

By Mr. Locke : Q. How much more ?

2789 A. Oh, it is worth considerable more.

Q. Double ?

A. Yes, sir.

By Com. McAlpine : Q. Has it any present value because of its water front on the Buffalo Creek ?

A. I think it has, prospectively.

By counsel, resuming : Q. Take that property now, and does it pay its taxes ?

2790 A. No, sir ; not for grazing purposes.

Q. That is what all that property is used for ?

A. Yes, sir.

Q. Mr. Locke's property, with all the other lots ; just what he can get out of grazing ?

A. I think he sold some of it to the chemical works there, which I guess he got more than pasture-land price for.

By Com. McAlpine : Q. Do canal-boats ever come 2791 up there now ?

A. No, sir.

Q. Can canal-boats come up ?

A. They could by clearing out a little bar just above the iron works ; that can be made navigable up to this point or above.

Q. Do you understand it to be navigable by law ; the right to navigate ?

A. Certainly ; when I said navigable, I meant for boats drawing over seven feet of water ; I presume it is

navigable for canal-boats, and I think I have seen canal 2792 boats lying at the chemical works, at Kalbfleisch's works above the bridge; perhaps they would draw from five to seven feet of water; not navigable for boats drawing a greater depth than seven feet.

By counsel, resuming: Q. Taking that railroad line A, constructed just as it is shown on this map, and on the high embankment, taking the situation here, that there are railroad facilities through this lot by the Buffalo Creek Railway which runs there, and that in this 2793 embankment are built a proper number of proper, adequate arches or bridges, whatever it is, for under-crossings, for access to the Abbott road; now, do you think that this river front here, the property there, getting away a hundred feet from the embankment, would be depreciated?

A. Yes, sir, it would depreciate it some, even then; with an embankment it would be depreciated then.

Q. Would it be much depreciated? 2794

A. Well, I think the depreciation would be less, of course, as the distance increases.

Q. It would have all the facilities of this water-front with the embankment there, that it would have without the embankment, would it not?

A. Yes, sir; but then it isolates you.

Q. That is it; does the result of depreciation grow out of this embankment cutting them away from the 2795 Abbott road?

A. Well, it does only to the extent that it isolates you; your buildings could not be seen from the Abbott road to any advantage; your manufacturing signs, sugar works, or iron works, your signs would not be exhibited from the thoroughfare.

Q. Is that what would cause the depreciation, this isolation by the embankment?

A. Yes, sir.

2796 Q. And this obstructed access to the Abbott road?

A. Yes, sir.

Q. But so far as the purposes to which the land can be applied are concerned, those purposes are not interfered with?

A. No, sir.

Q. In giving us your estimates, did you take into account all the prospective uses to which the lot could be put?

2797 A. Yes, sir.

Q. You are speaking of it as a valuable lot, adapted to commercial purposes?

A. Yes, sir.

Q. You are not speaking of it simply as a grazing lot?

A. Oh, no.

2798 Q. But, as I understand, all this property would be least depreciated by a trestle such as has been described, taking into account both a high embankment and a low embankment?

A. Yes, sir; a trestle-work above the lay of the land.

Q. What is the value of this lot 185 as compared with the value, say, of 183, 182, 181, 180, and so on?

A. Oh, relatively these are about the same value.

Q. You think that lot 185 is about of the same value as these other lots that I have mentioned?

2799 A. Yes, sir.

Q. If that lot was owned by an individual, and was applicable to the railroad purposes of the Lake Shore, so that they wanted it, that would give it increased value over the others?

A. Relatively; yes, sir.

Q. The fact of its being applicable to railroad purposes, would be an element at once increasing its value over the lots not required by the railroad company?

A. Yes, sir.

Q. Compared with property on the other side, how 2800
is the value of this?

A. The value of lands west of the track is considerably more than that east.

Q. One you speak of by the acre and the other by the foot?

A. Yes, sir.

Cross examination, by Mr. Locke:

Q. You tried to buy Mr. Box's lot down there, didn't 2801
you?

A. No, sir.

Q. Did you make him an offer?

A. No, sir.

Q. Did you go to make inquiries about it?

A. No, sir.

Q. Did you ever see him about it?

A. Yes, sir; or he saw me.

Q. At whose instigation did you see him? 2802

A. I presume it was his own instigation, I don't know; he called at my office about it.

Q. Did you call upon him?

A. No, sir.

Q. Didn't you communicate with Mr. Alward about the Babcock lot?

A. No, sir.

Q. Do you think if you had lot 181, or 180, or 178, 2803
down there, that you had just as soon have a railroad put
through on an embankment nineteen or twenty feet
high as to have it at the present grade of the Buffalo
Creek road?

A. No, sir, I would not.

Q. It would make a very great difference, would it not?

A. Yes, sir.

2804 Q. Don't you think that the injury to that lot would extend more than a hundred feet from the railroad?

A. It might; it would depend upon circumstances.

Q. It would deprive you of any connection with the road crossing you, wouldn't it? Practically you couldn't have a connection with the railroad which crossed you nineteen feet high on an embankment?

A. No, sir.

Q. And so far it would affect the saleability of your
2805 remaining lands?

A. Yes, sir, for certain purposes.

Q. For business purposes?

A. For railroad purposes where you required a railroad connecting.

Q. All that property is made more desirable by a railroad connection, is it not?

A. Certain parts of it.

Q. All the property lying along the line of the rail-
2806 road is worth more than property lying six or seven hundred feet away from the railroad?

A. That is not a rule.

Q. How is it in cities?

A. It is sometimes a curse; several thousand feet is a good deal better away.

Q. Take other things being equal, and through such a property as that, do you say that a railroad connection
2807 would enhance the value of the property?

A. Yes, sir, it would be desirable to have a railroad connection.

Q. It would multiply the number of uses to which the property could be put?

A. Yes, sir.

Q. You know the grade of the Buffalo Creek road through the property?

A. I know it only from my eye.

Q. You know how it lies in reference to the natural surface of lot 178, for instance, which you sold me?

A. Yes, sir.

Q. Now, do you say that that Buffalo Creek road through lot 178, as it is now constructed, is a serious detriment to the lot?

A. No, I don't think it is.

Q. Now, if the Buffalo Creek road were elevated twenty feet high on an embankment, how would you regard it then?

2809

A. I should consider that a disadvantage.

Q. I suppose if you had property right where it is to-day, if you owned this property, you would prefer not to have a railroad of nineteen feet high on the other side of the street, would you not?

A. I guess so.

Q. You would prefer not to have a railroad of nineteen feet high on the other side of the street, would you not?

2810

A. I guess so.

Q. You would think it would seriously interfere with the value of your property?

A. Yes, sir.

Q. Speaking of Mr. Box's lot, it is in testimony here that Mr. Box's lot is in depth from Sandusky street about six or seven hundred feet back, so that two railroads running through there and intersecting as the proposed Lackawanna lines do, and running through on the same grade as the Buffalo Creek road, would utterly destroy all that lot?

2811

A. I don't know how much it would destroy, it virtually confiscates the whole lot.

Q. Isn't a lot two hundred feet in depth along Sandusky street front of any value for business purposes having a railroad connection?

2812 A. None of that has any value for business purposes at present.

Q. It wouldn't be of any value having a railroad connection with it?

A. It could be utilized.

By Mr. Milburn: Q. That just brings up the question that the injury to these lots 183, 182, 181, 180 is entirely dependent upon how much, with two railroads going through any way, is left to be available for any
2813 purpose?

A. Yes, sir.

Q. And the situation of that which is left?

A. Yes, sir.

Q. Now, if the two roads are through there, and one is at grade, why, then there would be railroad facilities to that grade railroad in any event, wouldn't it, whether this one was on an embankment or not?

A. Yes, sir.

2814 Q. You say the question is not whether this railroad on the embankment cuts these railroads off from railroad facilities, because there is running through them another branch of the Lackawanna which is at grade, so that your branch would give them the desired railroad facilities, would it not?

A. Yes, sir.

It is conceded by the respective counsel, that the accompanying schedule produced is a correct statement.

The schedule above referred to reads as follows:

GRADE-CROSSINGS.	DATE.*
1. B., N. Y. & P. of Erie, ...	1869
2. Alabama street N. Y. C. and Erie, ...	1853
3. Compromise tracks, Erie and L. S., ...	1874
4. Sandusky street, Erie and L. S., ...	1853
5. Buffalo Creek and Erie, ...	1879
6. B. C. and L. S., ...	1873

7. N. Y. C. from East Buffalo to Niagara Falls, 2816
and Erie International, ...1874
8. N. Y. C. from East Buffalo to Niagara Falls,
and Erie International, ...1874
9. B., N. Y. & P. and N. Y. C. at Emslie street, ..1872
10. B., N. Y. & P. and Erie, Olean, ...1872
11. B. C. R. R. and B., N. Y. & P., ...1873
Over-crossing Erie International of N. Y. C., ...1870

*The dates above given are those when each new 2817
railroad made its crossing of the older built railroad.

OCTAVE CHANUTE, re-called on behalf of the petition-
ers, and examined by Mr. Milburn, testified as follows:

Q. I wish you would state what the attitude of rail-
road companies is to-day towards entering cities on grade
roads, and what is being done in that regard by them?

A. There is a general movement going on in all our
American cities to elevate the tracks of a railroad enter- 2818
ing cities so as to avoid interference with street traffic, and
the great expense which follows from the necessity of
watchmen and gates to prevent accidents. Those watch-
men, the accidents that result from collisions have been
found so serious and so expensive that for the past five
or six years railroads have been expending large sums
of money to elevate their tracks. The instances that oc-
cur to me at the present time are, first, the building of a 2819
new line of approach through Jersey City, by the Penn-
sylvania Railroad, in order to bring its trains over-head
of the streets. The work which was accomplished in
1874 or 1875.

Q. Just state the expense?

A. I don't know what the expense was.

Q. Approximately?

A. It must have been some three hundred thousand
dollars; at about the same time the Delaware, Lacka-

2820 wanna and Western expended at least two hundred thousand dollars in raising its track through the streets of Jersey City, over the streets, and in raising its yard so as to bring its traffic at an elevation of about twenty feet above the grade which it formerly occupied, and in connection with that, it spent an additional sum of about a million dollars in boring a new tunnel through Bergen Hill, at an elevation of some twenty-five feet above the tunnel of the Erie road, which they formerly occupied, for the purpose
 2821 of doing away with grade-crossings at streets; the Erie Railway at Jersey City expends a sum which we estimate at about forty thousand dollars a year for watching and additional switching, because of its position at the street level, and we have been contemplating the raising of our tracks from the end of our tunnel down to the water's edge, so as to do away with that necessity, that expense, that danger; the Pennsylvania Railroad has expended a sum, I believe, of some two millions of dollars
 2822 in raising its tracks in Philadelphia.

Q. Raising its tracks to get above the level of the streets?

A. Raising its tracks to get above the level of the streets, building viaducts; it has built trestle and masonry—brick viaducts to carry its passenger line down through Market street, I believe, to do away with the grade-crossing, and the consequent danger and expense;
 2823 the city of New York and the N. Y. C. & H. R. R. R. have expended jointly about three million dollars in depressing the tracks of the N. Y. C. & H. R. R. R. from the 42d street depot out to Harlem River, so as to do away with its grade-crossings; at Rochester the N. Y. C. & H. R. R. R. is about to expend at least a half million dollars in raising its tracks through the city; at Chicago, the railroads have been discussing for the last two years a project for raising their tracks where they enter the city, at a cost, which will run pretty well into the millions

of dollars; in St. Louis, the same problem has arisen, 2824 and the Iron Mountain Railroad, as I know upon receiving some estimates from iron bridge builders for some two miles of trestle work; iron trestle, to bring its lines through the city, and I believe the same question is being agitated in other cities, and I have no doubt that we shall all have to come to it at all the important centers of population and trade.

Q. There has been a good deal of misunderstanding about one of your answers. I would like to find out just 2825 how you really meant it. When we were on the question of grade-crossings, in reply to a question of Mr. Locke's, you fixed a certain per centage, ninety, I think, of the various difficulties growing out of a grade-crossing, and attributed that to danger to life. That answer has been construed that taking all the difficulties, the delays, etc., at that crossing, expressed in money, that ninety per cent. of the amount was to be attributed to loss of life or to injury to life, appraising human life at five 2826 thousand dollars; now, I should like to have you state to the commissioners just what you meant by saying that ninety per cent. of your objection to grade-crossings was danger to human life?

A. It was not with reference to any money value, but to the relative percentage of importance which in my own mind I gave to the question of safety, which I think should be paramount in all railroad plans and 2827 operations; the first and most important thing is to insure the safety of the operation; it is not a question of dollars and cents, as I view it, but a question of life and death, and no amount of money could compensate for the knowingly setting a trap in which a train-load of passengers should be precipitated; when I therefore stated ninety per cent., as the percentage of consideration which told in my judgment against the grade-crossing, I had reference to the percentage of moral weight, if I may

2828 so speak, which I attributed to the importance of doing away with the possibility of accident at that point.

Cross examination, by Mr. Locke :

Q. How many grade-crossings have you on the Erie road now, did you testify ?

A. I don't think I testified how many.

Q. Will you count them up ?

A. I could not do so without taking some little time,
2829 but I will state in round numbers that we have got eight or ten, I think, on the line of the road, besides a number in this city here.

Q. By Com. McAlpine: Q. These are grade-crossings or other railroads ?

A. Yes, sir ; that was what I understood, and that was the question which I answered.

Q. By counsel, resuming : Q. You always examine to see the annual report of the Erie Railway to the State
2830 engineer, do you not ?

A. Yes, sir.

Q. I have here the reports of 1877, 1878 and 1879, was any person hurt at any crossing in either of those years to your recollection ?

A. I think there are several, but I don't remember the circumstances.

Q. They would be reported, would they not ?

A. They would.

2831 Q. If no such facts appear in your report then you must be mistaken, must you not ?

A. Yes, sir.

Q. Were you conversant with an application in the interests of the Erie Railway last year, or two years ago, to lay tracks across this city down to the International Bridge in the same manner and at the same time that the Central made its application for its cross-town grant ?

A. No, sir.

Q. You know nothing about that?

2832

A. No, sir.

Q. Did you not ever hear or see any plans which were presented to the common council by the Erie road, asking for a grant across this city?

A. I never saw those plans.

Q. Did you ever hear of such application?

A. I did.

Q. Then you were conversant with the fact that such an application was made for right to lay your tracks across all the streets in this city, between the east side and the west side?

2833

A. I was advised of it, sir, after the application had been made, only.

Q. Not until after?

A. No, sir.

Q. Then I suppose you sat right down upon it?

A. My opinion was not asked, and I had nothing to say about it.

2834

Q. You have spoken of the proposed Central changes at Rochester, do you know that there is a very severe grade at Rochester?

A. Yes, sir.

Q. Which requires a pusher?

A. Yes, sir.

Q. Do you not know that the main object of the proposed changes at Rochester is to overcome that grade?

2835

A. I don't so understand it.

Q. All your present tracks in Jersey City cross streets at grade, do they not?

A. They do.

Q. All your tracks at Binghamton cross at grade?

A. No, sir; they don't; we are building at considerable expense a new bridge at Binghamton, for the purpose of carrying the street under our track, and so diminish the traffic across an adjoining street.

2836 Q. In one street there?

A. Yes, sir.

Q. All your tracks cross through Hornellsville at grade, do they not?

A. They do.

Q. At Attica and Owego?

A. At Attica we are negotiating with the townspeople to carry their streets under our track.

Q. There your grade will admit of it, will it not?

2837 A. Yes, sir.

Q. Now, at all the other places, Owego and Waverly and Port Jervis, and Paterson, and all those places, you run through at grade, do you not?

A. At Paterson we are expending a considerable sum of money to carry the street under the track, we are at present just beginning the work.

Q. To carry one street under?

2838 A. Yes, sir.

Q. All the other streets you cross at grade?

A. We will take them one at a time and lower them as we can.

Q. I suppose that this thing is rapidly developing upon you, is it not, the necessity of not crossing railroads at grade at all?

A. The importance of it has grown upon me for several years past.

2839 Q. Now, are you familiar with the system of railroads in the west?

A. I am.

Q. Take it in Ohio and in Indiana and in Iowa, and do you know how the railroads come into Omaha for instance?

A. No, sir.

Q. Do you know the Crest Line junction, for instance, of the Baltimore and Ohio, and the C., C. C. and I.?

A. No, sir.

Q. Do you not know that everywhere in the West 2840
ninety-nine per cent. of all railroad crossings are grade-
crossings?

A. Yes, sir, that is quite true, and that is where I got
my original impressions.

Q. Do you not think that throughout the United
States to-day, at least ninety-nine per cent. of all rail-
road crossings are at grade?

A. That is the fact.

Q. Do you not think that there is some foundation 2841
for some argument in favor of that, that could be based
upon the general system of railroads in the country, and
the necessity of their connecting with each other, so as
to make through lines to admit of consolidations and
business connections?

A. That and chiefly original poverty; poverty of the
railroads preventing them from going to the necessary
expense to make adequate crossings.

Q. Do you know of ten crossings in the United 2842
States which are over-head, where the grade does not
permit readily of an over-head crossing. Can you
specify ten?

A. I think I can, more than that; but it would take
me some little time to recall them.

Q. You know the system of railroads here in the
city, you testify?

A. Yes, sir, I do.

Q. We have counted up twelve railroad intersections 2843
in this vicinity; do you know of but one where it is an
over-head crossing—your Erie International?

A. I only know of one.

Q. Do you know of the Buffalo and Lockport cross-
ing of the Niagara Falls branch of the Central road at
Tonawanda?

A. Yes, sir.

Q. That is a grade-crossing?

2844 A. Yes.

Q. When was that put in?

A. I think it was put in in 1879 or 1880.

Q. Now, the Buffalo and Lockport road is practically a branch of the Erie railway, is it not?

A. It was subsequently leased to the Erie Railway.

Q. You understood it was largely built by Erie capital, didn't you?

A. No, sir.

2845 Q. Didn't you understand it was built in the interests of the Erie Railway, and largely built with Erie capital?

A. No, sir; the Erie capital was not furnished for that road; it was built with the expectation, on the part of its owners, that they would eventually succeed in leasing it to the Erie, which they did.

Q. It was built with that understanding?

A. Yes, sir.

2846 Q. So that practically it was controlled in the interests of the Erie Road from its inception, was it not?

A. I don't think you could say that.

Q. Did you have anything to do with the laying out of that road?

A. No, sir.

Q. Do you know anything about it?

A. I know something about it, yes, sir.

2847 Q. Do you know anything about the crossing at Tonawanda?

A. I know something about that, I heard it discussed.

By Com. Clark: Q. Can you state what portion of the accidents occurring at railroad crossings occur at street crossings and at railroad crossings, annually?

A. I could not state that in matter of proportion; I don't know.

Q. Could you approximate it?

A. No, sir, I couldn't; it would be a mere guess on my part, and probably be inaccurate; statistics might

readily be gathered from the reports, and the propo- 2848
tions ascertained.

Q. Do you consider the subject of terminal facilities an important element in determining the grade at which roads should run in cities?

A. Undoubtedly; yes, sir; for the traffic capacity of our roads, now, is limited by their terminal facilities, rather than their track facilities.

Mr. Locke offered in evidence a map of the Buffalo Creek Reservation, in this locality, made in 1844, by 2849
Lovejoy & Emslie, showing a street laid out along the southerly side of lot 185, as an extension of Sandusky street beyond the tracks of the Lake Shore Railway.

Objected to by Mr. McMillan, on the ground that this map is no evidence of a street having been laid out.

Map received in evidence as showing what is stated by Mr. Locke.

Mr. Locke offered in evidence a deed conveying lot 185 to the Buffalo and Erie Railway Co. 2850

Received and marked Respondents' "Exhibit No. 27."

It is admitted for the purposes of this hearing that a proposition has been made by Mr. Tillinghast, on behalf of the New York Central and Hudson River R. R. Co. to the Lackawanna Co., of the form embodied in a draft of contract, produced here, and marked "Exhibit No. 30," and that the same is being held under consideration by the Lackawanna Company; and that the tracks of 2851
the New York Central road on Ohio street are substantially as shown on the Buffalo City Map, at page 20.

Mr. Milburn: I desire to have a concession appear here that the amended profile may be substituted for the profile on the map annexed to the petition. We ask to put this in evidence, and then to enter that concession on the minutes so far as we are concerned. It was marked for identification, and I should like to have it in the case. We may see fit to move to have the court

2852 substitute it, or if the commissioners were to adopt it, to
 have that particular action on the part of the commis-
 sioners ratified. It is marked "Petitioner's Exhibit
 No. 8." I should like to ask Mr. Haven a question as
 to this profile running under grade, and the question I
 shall put to him is if it was the design of this map, on
 the grade running westerly from the Lake Shore and
 2853 Erie crossing, to run it until it struck the grade of the
 Lackawanna road, wherever that grade might be?

Mr. Haven: That was the intention in making the
 map, to intersect such a grade as they might finally
 adopt, going west from Hamburg street or Mackinaw
 street, to run down to the intersection of their grade.
 It was a profile or tracing paper, traced from their grade,
 2854 intending to intersect their grade.

Q. And stop there?

A. Yes, sir.

Q. And joined there over at the point of intersec-
 tion?

A. Yes, sir.

By Mr. Locke: Whether it does or not, you are not
 able to state?

2855 A. No, sir; it was intended to do that.

Mr. Locke: I offer in evidence the profile of line
 "A," as shown on petitioner's map.

Statement showing elevation of profile received, and
 marked "Exhibit 26."

Evidence closed.

PETITIONER'S EXHIBIT No. 5.

2856

BUFFALO, July 12, 1881.

Below is a correct statement, giving the number of freight, including cattle cars, that arrived at and departed from Buffalo station, in the year 1880:

1880.	EASTWARD.	WESTWARD.	
January.....	19,279	23,441	
February.....	18,916	18,174	
March	24,555	22,315	
April	21,159	21,341	2857
May	18,823	19,741	
June.....	21,700	22,836	
July	27,355	26,515	
August.....	26,045	26,478	
September	21,974	22,147	
October	24,223	20,697	
November	21,339	23,095	
December	23,339	22,735	
Totals	268,707	269,515	2858

Grand total, 538,222 cars.

P. S.—In giving the above report, it shows on paper simply as so many cars moving into and out of the yards, but when we stop to consider the large amount of work required to switch these cars and make them into trains, working under difficulties that we have to encounter, it is no wonder our yard is full of cars and trains, so often held out at Buffalo Creek. These delays are principally caused by the N. Y., L. E. & W. Ry. using the cross-over track at Erie transfer. So much of the time, of course, we have to wait for the target, and then take our chances when we get it—and in so many cars moving, it takes but a short time to block our yards, and then the large number of cars that have to be twice switched across the cross-over track to get to the Erie transfer tracks, is another matter which should be care-

2860 fully considered, in the advisability in making more room for the dispensation for the Erie transfer freight. If this could be done it would give a much needed relief, and prevent future accidents at the Erie cross-over. Below you will please find the number of cars switched to and from the Erie transfer tracks, etc., in the year 1880 :

1880.		EASTWARD.		WESTWARD.	
		Run Through by Transfer.		Run Through by Transfer.	
2861	January.....	1,174	271	2,251	596
	February....	1,355	238	1,304	674
	March	2,438	320	1,657	668
	April	2,350	420	1,851	630
	May	2,481	434	1,666	680
	June.....	3,120	368	2,896	394
	July	3,930	385	4,372	384
	August.....	3,535	339	3,494	544
	September ..	3,672	421	2,716	477
2862	October	3,372	404	2,828	505
	November ...	2,326	325	2,677	478
	December ...	2,388	336	2,715	321
Totals ..		32,141	4,261	30,433	6,351
Grand Total, 73,186 cars.					

2863 In adding the Erie and through business together, it will give you the exact number of freight cars we have to switch across the Erie cross-over tracks—that is the regular business—not counting the yard switching, in taking cars to and from the Buffalo Creek *Y* for B. C. and B., N. Y. & P. Ry. The total through, 538,222 cars, Erie transfer 73,186 cars, making a total of 611,408 cars, being an average of 1,675 cars per day, and for every hour in the day, sixty-nine cars, and for ever minute in the year 19-60 cars. The object in reducing the figures to show you the number of cars that pass every minute, is an appeal for more room ; our facilities at the Erie transfer are inadequate to the de-

mands of the business. When the Erie transfer and its 2864 platforms were built years ago, it was made for the business of the B. & E. Ry.; at that time, when our business was not one-fourth of what it is to-day, it answered the purpose; and at that time the Erie Ry. were not doing the business they are now; we could then get the use of our tracks at Erie cross-over, but at the present time hundreds of cars are passing daily over this great thoroughfare, and this is the means of causing us so much trouble, and prevents us from doing our work, 2865 and causing, as I said in the beginning, a general block and delaying our business at the Erie transfer, and in yards. These suggestions are offered for your own wise consideration.

Yours truly,

W. W. BUFFUM,

Agent for Company.

2866

PETITIONER'S EXHIBIT No. 10.

*Prepared on Behalf of The Lake Shore Railway and
The Erie Railway.*

APPROXIMATE ESTIMATE OF LINES "A" AND "B" AS
LOCATED BY THE N. Y., L. & W. R. R.

LINE "A," *Excavation or Embankment*—

Between stations 210 and 240, cubic yards..	8,160	2867
Between stations 180 and 210, cubic yards..	17,310	
Between stations 165 and 180 cubic yards..	7,755	
Between stations 149 and 165, cubic yards..	3,555	
In approaches to Smith, Fitzgerald, Katharine, Sidway, Mackinaw, Hamburg and Alabama streets.....	6,860	
Total cubic yards.....	43,640	

2868 *Masonry*—

In culverts near L. S. & M. S. Ry., cubic yards.....	242.5
In two abutments at Buffalo River.....	370.0
In center pier for Buffalo River.....	157.0
In culverts and cattle-guards at Abbey street, Smith street, Buffalo Creek Railroad, Fitzgerald, Katharine, Sidway, Mackinaw, Hamburg and Alabama streets....	784.0

2869

Total cubic yards..... 1,553.5

Piling—

For abutments at Buffalo River, lin. ft.....	4,080
For center pier.....	1,170

Total lineal feet..... 5,250

2870 *Timber*—

Under abutments in center pier, Buffalo River, F. B. M.....	36,100
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LINE "B"—

Excavation and embankment between stations 218 and 203, cubic yards.....	6,270
Between stations 218 and 229, cubic yards..	1,914
2871 For Smith street and Abbott road.....	900
Total cubic yards.....	9,084

Masonry—

In culverts and cattle-guards at Smith street and Abbott road, cubic yards.....	173
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2872

APPROXIMATE ESTIMATE OF LINES "A" AND "B" AS
LOCATED BY THE LAKE SHORE RAILWAY AND BY
THE ERIE RAILWAY.

LINE "A," *Excavation or Embankment*—

Between stations 229 and 210, cubic yards..	68,527	
Between stations 208 and 190, cubic yards..	107,387	
Between stations 190 and 182, cubic yards..	37,548	
Between stations 176 and 148, cubic yards..	74,343	2873
Approach to Abbey street, cubic yards.....	900	
Extra in place of bridge, cubic yards... ..	1,933	
Total cubic yards	290,638	

Masonry—

In two abutments at Buffalo River, cu. yds..	1,773	
In center pier, cubic yards.....	200	2874
In two abutments for B. C. R. R. bridge, cu. yards.....	1,400	
In two abutments for Smith street, cu. yds...	1,160	
In two abutments, N. Y., L. E. and L. S. & M. S. R. R., cubic yards.....	1,773	
In four piers, cubic yards.....	800	
In trestle-piers, cubic yards... ..	72	
In two abutments, Katharine street, cu. yds.	1,883	
In two abutments, Sidway street, cubic yards,	1,463	2875
In two abutments, Mackinaw and Hamburg streets, cubic yards.....	1,539	
In one pier, Mackinaw and Hamburg streets, cubic yards.....	283	
In two abutments, Alabama street, cu. yards,	460	
Total cubic yards.....	12,806	

2876 *Piling*—

For abutments at Buffalo River, lineal feet,	12,960
For center pier at Buffalo River, lineal feet,	2,250
Trestle from station 229 to 211, lineal feet..	24,000
Trestle from station 190 to 207, lineal feet..	27,000
Trestle from station 181 to 191, lineal feet..	15,000
Trestle from station 157 to 175, lineal feet..	25,200

Total lineal feet.....106,410

2877

Timber—

Under abutments and center piers at Buffalo River, F. B. M.	108,456
In trestle, F. B. M.....	585,600
Total Ft. B. M.....	694,056

*Bridges, other than those which are common to both*2878 *lines*—

One at Smith street, length, feet.....	55
One at Buffalo Creek R. R., length, feet.....	105
One at L. S. & M. S. Ry., length, feet.....	125
One at N. Y., L. E. & W. R. R., length, feet,	100
Two at Fitzgerald street, length, feet, each...	63
One at Katharine street, length, feet.....	63
One at Sidway street, length, feet.....	63
Two at Mackinaw and Hamburg sts., length, feet, each.....	127½
One at Alabama street, length, feet.....	72
Trestle (iron) between Erie and L. S., lin. ft.	220

2879

LINE "B," *Excavation or Embankment*—

Between stations 213 and 230, cubic yards...	33,932
Between stations 202 and 213, cubic yards...	40,160
Total cubic yards.....	74,100

Masonry—

2880

In two abutments over Smith street, cu. yds. 930

In two abutments over Abbott road, cu. yards, 460

Total cubic yards.....1,390

Piling—

For trestle from station 189 to 203, except

Smith street and Abbott road, lineal feet. .18,000

Timber—

2881

In trestles, F. B. M.....121,152

Bridges, other than those which are common to both lines—

One at Smith street, length, feet..... 75

One at Abbott road, length, feet..... 95

NOTE.—No calculation made in any case for earth excavation in foundations. 2882

SUMMARY

OF APPROXIMATE ESTIMATE OF LINES "A" AND "B" AS
LOCATED BY THE N. Y., L. & W. RY. AND AS PRO-
POSED BY THE N. Y., L. E. & W. AND L. S. & M. S.

Line "A."

	As located by N. Y., L. E. & W.	As proposed by Erie and Lake Shore.	Difference.	Extra cost in- volved by the N. Y., L. E. & W. and L. S. & M. S. R. R. proposed al- teration.	2883
Excavation...	42,640 c. yds.	290,638 c. yds.	246,998 c. yds.	@25 c.	\$ 61,749.50
Masonry,.....	1,553	12,806	11,253	@\$8.00.	90,024.00
Piling,.....	5,250 ft.	106,410 ft.	101,160 lin. ft.	@30 c.	30,348.00
Timber,.....	36,100 B. M.	694,056 B. M.	657,956 F. B. M.	@\$30.00	19,738.68
Bridges,.....	1-55 ft. long,			@ 60.00	3,300.00
"	1-105			@ 92.00	9,660.00
"	1-125			@100.00	12,500.00
"	1-100			@ 90.00	9,000.00
"	4- 63			@ 63.00	15,876.00
"	2- 127½			@ 110.00	28,050.00
"	1- 72			@ 70.00	5,040.00
Iron trestle,...	220 lin. ft.			@ 35.00	7,920.00
Total,.....					\$293,206.18

2884

Line "B."

Excavation....	9,084 c. yds.	74,100 c. yds.	6,506 c. yds	@25 c.	\$ 16,254.00
Masonry,.....	173 "	1,390 "	1,217 "	@\$8.00.	9,736.00
Piling,.....			18,000 lin. ft.	@30 c.	5,400.00
Timber,.....			121,150 F. B. M.	@\$30.00	3,634.50
Bridges,.....	1 75	ft. long,		@\$72.00	5,400.00
"	1 95	"		@ 88.00	8,360.00
Total,.....					\$ 48,784.50
Total, both lines,....					\$341,990.68

2885

PETITIONER'S EXHIBIT No. 11.

APPROXIMATE ESTIMATE OF ALTERED LINE WITH LINE
"A," ABANDONED EAST OF ITS INTERSECTION WITH
LINE "B."

80,452 cubic y'ds. earth embankment at 25c.	\$ 20,113.00
7331 cubic yards masonry at.....	\$ 8 58,648.00
2886 30,000 lineal feet piling at 30c.....	9,000.00
262,000 feet B. M. timber at.....	\$ 30 7,860.00
125 feet iron bridge at.....	100 12,500.00
100 " " " at.....	90 9,000.00
252 " " " 4 spans of 63 ft. at	63 15,876.00
255 ft. iron bridge, 2 spans of 127½ ft. at	110 28,050.00
72 feet " " at.....	70 5,040.00
220 iron trestle at.....	36 7,920.00

2887

Line "A," to intersect with Line "B,"	\$174,007.00
Add Line "B,"	48,784.50
Total,.....	\$ 222,791.50

NOTE—The cost of the low grade line is deducted.

PETITIONER'S EXHIBIT No. 12.

2888

ESTIMATE ALTERED ROUTE LACKAWANNA RAILROAD
CROSSING THE ERIE AND LAKE SHORE RAIL-
ROADS.

14,480 cubic yards, earth embankment, at		
25c.....	\$	3,620.00
733 lineal feet iron bridges.....		58,529.00
5,530 cubic yards, masonry in piers, at \$8..		44,240.00
1,000 cubic yards masonry in trestle piers,		2889
at \$10.....		10,000.00
6,185 lineal feet iron trestle, ave. at \$32...		197,920.00
Total line "A" exclusive Buffalo Creek		
Bridge ties and rail.....	\$	314,309.00

Line "B" same conditions.

6,800 cubic yards, earth embankment, at		2890
25c.....	\$	1,700.00
2,026 lineal feet iron trestle, at \$28.....		56,728.00
162 lineal feet iron bridge.....		13,950.00
275 cubic yards masonry in bridge piers,		
at \$.....		2,200.00
300 cubic yards masonry in trestle piers,		
at \$10.....		3,000.00
Total Line "B".....	\$	77,578.00 2891
Add Line "A".....		314,309.00
Total	\$	391,887.00
Deduct for lines "A" and "B" on Lacka-		
wanna location.....		26,987.00

Increased cost of elevated lines "A" and
"B," exclusive of Buffalo Creek Bridge, \$364,900.00

2892

PETITIONER'S EXHIBIT NO. 13.

ESTIMATE OF ALTERED LINES WITH LINE "A," ABANDONED EAST OF ITS INTERSECTION WITH LINE "B."

	4880 cubic y'ds earth embankment at 25 cts.	\$ 1,220.00
	2046 lineal feet iron trestle, ave.	\$ 32 65,472.00
	72 " " " bridge, at.	70 5,040.00
	2 spans iron bridge 127½ ft. 255 ft. at 110	28,050.00
	63 lineal feet iron bridge at	63 3,969.00
2893	63 " " " " " "	63 3,969.00
	80 " " " " " "	75 6,000.00
	125 " " " " " "	100 12,500.00
	100 " " " " " "	90 9,000.00
	4670 cu. yds. masonry in piers at.	8 37,460.00
	400 " " " for trestle at	10 4,000.00
	Total of Line "A," west of its intersection with Line "B."	\$176,680.00
	Add Line "B."	77,578.00
2894	Total	\$254,258.00
	Deduct proportion of low grade line, ...	14,258.00
	Total cost, ...	\$240,000.00

PETITIONER'S EXHIBIT NO. 30.

2895 This agreement, made this twentieth day of July, 1881, between The New York Central and Hudson River R. R. Co., as party of the first part "hereinafter referred to as 'The Central,' and The New York, Lackawanna and Western Railway Co., as party of the second part, and hereinafter referred to as the 'Lackawanna'":

Witnesseth, that the consideration of the covenants hereinafter contained on the part of the Lackawanna, to be kept and performed, the Central hereby grants to the

Lackawanna the right to cross with two tracks the Cen- 2896
 tral's roadway and tracks at the three points of intersec-
 tion of the two roads as shown upon the Lackawanna
 map, filed in the office of the Clerk of the County of
 Erie, State of New York, on the nineteenth of May,
 1881, upon the following terms and conditions and man-
 ner described in this :

First. The crossing of the main line of the Central,
 near the city line at East Buffalo, shall be an over-head
 crossing upon an iron bridge, with span that will permit 2897
 eight tracks passing under it of usual width between
 centers. The bottom of the bridge to be at least
 nineteen feet above the top of the Central's rails or
 tracks. The location of the crossing and piers, espe-
 cially the latter to be agreed upon between the chief
 engineers of the parties hereto.

Second. The crossing of the Niagara Falls branch
 line of the Central at the point described on said map,
 north of North Buffalo station, shall be by an over-head 2898
 crossing upon an iron bridge, with spans that will per-
 mit of at least six tracks under them, of usual width be-
 tween centers. The bottom of the bridge to be at least
 nineteen feet above the top of the Central's rails. The
 location of the piers to be agreed upon between the chief
 engineers of the parties hereto.

The Lackawanna shall have the right on its proposed
 Ohio street branch line to cross the Central's lands and 2899
 tracks, at a point midway between Elk street and Miami
 and Ohio streets, crossing at a suitable elevation by iron
 bridges, over Chicago, Moore and Michigan streets and over
 the Central's lands and tracks, about three hundred and
 forty feet in distance, with not less than three spans of
 iron bridge, with at least sixteen feet in the clear be-
 tween the top of the Central's rails and the bottom of
 the bridge irons. It being agreed that the location of
 the piers and length of the spans of each bridge for the

2900 Ohio street line's crossings shall be made so as to damage the Central's property and facilities the least that is possible, and with that view the location of and width of the piers and distance apart, together with the manner and form of construction and erection, shall be approved by the chief engineer of the party of the first part.

Fourth. The Lackawanna shall pay the cost and expense of any alteration of the Central's tracks, buildings and fixtures, made necessary to enable compliance with
 2901 the provisions of the contract—and as the crossings at East Buffalo, and upon the Ohio street line are to be over freight and car-storage yards and tracks, the Lackawanna agrees to provide tight floors on the bridges at those crossings, to protect the cars and property that may be under them on the Central's yards and tracks from damage by fire from coals and ashes dropping from the locomotive while passing over the bridges, and agrees to pay any damage from fire so caused by reason
 2902 of defective fire-boxes, grates and ash-pans of locomotives crossing the bridge.

Fifth. If at any time hereafter the Central shall, by reason of the exigencies of its business, be required to construct additional tracks, the additional bridges needed to permit of the operation of such additional tracks shall be constructed and paid for by the Lackawanna.

2903 Sixth. And subject to the provisions of the fourth and fifth sections, the Lackawanna shall be authorized in perpetuity to operate its railroad over the elevated crossings of the Central, in the manner hereinbefore mentioned, provided the Lackawanna shall and does and continues to keep the bridges in good safe order and condition, and properly provides against the danger of fires at the crossings of the East Buffalo and Ohio street yards.

Seventh. In consideration of the premises, the Lack-

awanna hereby agrees that it will change its proposed 2904
line and grade of the Ohio street branch line, and not
seek to cross the Central's lands or tracks at grade on
Ohio or Miami streets.

RESPONDENT'S EXHIBIT No. 7.

Prepared on Behalf of The Lackawanna R. R. Co. 2905

APPROXIMATE ESTIMATES OF LINES "A" AND "B" AS
LOCATED BY THE N. Y., L. & W. R. R.

LINE "A," *Excavation or Embankment*—

Between stations 210 and 240, cubic yards. . . 8,160.00

Between stations 180 and 210, cubic yards. . . 17,310.00

Between stations 165 and 180, cubic yards. . . 7,755.00

Between stations 149 and 165, cubic yards. . . 3,555.00

In approaches to Smith, Fitzgerald, Katharine, Sidway, Mackinaw, Hamburgh and
Alabama streets. 6,860.00 2906

Total cubic yards. 43,640.00

Masonry—

In culverts near L. S. & M. S. R. R., cubic
yards. 242.50

In two abutments at Buffalo River, cubic
yards. 370.00 2907

In center pier for Buffalo River, cubic yards 157.00

In culverts and cattle-guards at Abbey street,
Smith street, Buffalo Creek R. R., Fitz-
gerald, Katharine, Sidway, Mackinaw,
Hamburgh and Alabama streets, cubic
yards. 784.00

Total cubic yards. 1,553.50

2908 *Piling—*

For abutments at Buffalo River, lin. feet..	4,080.00
For center pier, lin. feet.....	1,170.00
Total lin. feet.....	5,250.00

Timber—

Under-abutments and center pier of Buffalo River, ft. B. M.....	36,100.00
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2909 LINE "B," *Excavation or Embankment—*

Between stations 218 and 203, cubic yards..	6,270.00
Between stations 218 and 229, cubic yards..	1,914.00
For Smith street and Abbott road, cubic yards.....	900.00
Total cubic yards.....	9,084.00

Masonry—

2910 In culverts and cattle-guards at Smith street and Abbott road, cubic yards.....	173.00
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ESTIMATES OF LINES "A" AND "B" AS PROPOSED BY
N. Y., L. E. & W. R. R.*Excavation or Embankment—*

Between stations 239 and 210, cubic yards..	68,527.00
Between stations 208 and 190, cubic yards..	107,387.00
Between stations 190 and 182, cubic yards..	37,548.00
Between stations 176 and 148, cubic yards..	74,343.00
2911 Approach to Abbey street, cubic yards....	1,933.00
Total cubic yards.....	289,738.00

Masonry—

In two abutments at Buffalo River, cubic yards.....	1,773.00
In center pier, at Buffalo River, cubic yards	440.00
In two abutments for Buffalo Creek R. R. bridge, cubic yards.....	1,400.00

In two abutments for Smith street, cubic yards.....	1,222.00	2912
In two abutments for N. Y., L. E. & W., M. S. R. R., Fitzgerald street, cubic yards.....	1,773.00	
In five piers for N. Y., L. E. & W., M. S. R. R., cubic yards.....	2,220.00	
In two abutments for bridge over Katharine street, cubic yards.....	1,883.00	
In two abutments for bridge over Sidway street, cubic yards.....	1,463.00	2913
In two abutments for bridge over Mackinaw and Hamburg streets, cubic yards.....	1,539.00	
In one pier for bridge over Mackinaw and Hamburg streets, cubic yards.....	283.00	
In two abutments for bridge over Alabama street, cubic yards.....	460.00	
Total cubic yards.....	14,456.00	2914

Piling—

For abutment at Buffalo River, lin. feet....	12,960.00	
For center pier at Buffalo River, lin. feet..	2,250.00	
For trestles from station 229 to 211, lin. feet	26,352.00	
For trestles from station 190 to 207, lin. feet	28,638.00	
For trestles from station 181 to 190, lin. feet	19,683.00	
For trestles from station 157 to 175, lin. feet	25,704.00	
		2915
Total lin. feet.....	115,587.00	

Timber—

Under-abutments and center pier at Buffalo River, ft. B. M.....	108,456.00	
In trestle, ft. B. M.....	585,600.00	
Total ft. B. M.....	694,056.00	

2916 *Bridges—*

Others than those that are common to both	
lines; one at Smith street, ft. span...	55
One at Buffalo Creek R. R., ft. span....	105
Six at L. S & M. S. and N. Y., L. E. & W.	
and Fitzgerald street,.....	$\left\{ \begin{array}{l} 3 \text{ spans @ } 140 \\ 2 \text{ spans @ } 100 \\ 1 \text{ span @ } 80 \end{array} \right.$
One at Katharine street, ft. span.....	63
2917 One at Sidway street, ft. span.....	63
Two at Mackinaw and Hamburg streets,	
ft. span.....	127½ each
One at Alabama street, ft. span.....	72

LINE "B," *Excavation or Embankment—*

Between stations 213 and 230, cubic yards..	33,932.00
Between stations 202 and 213, cubic yards..	40,160.00
Total cubic yards.....	74,092.00

2918 *Masonry—*

In two abutments for bridge over Smith street, cubic yards.....	930.00
In two abutments for bridge over Abbott road, cubic yards.....	460.00
Total cubic yards.....	1,390.00

Piling—

2919 For trestle from station 189 to 203, except Smith street and Abbott road, lin. feet..	18,000.00
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Timber—

In trestle, ft. B. M.	121,152.00
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Bridges—

Others than those that are common to both	
lines; one at Smith street, ft. span.....	75
One at Abbott road, ft. span.....	95

*Note—*No calculation made in any case of the material excavated for foundations.

SUMMARY

2920

OF APPROXIMATE ESTIMATE OF LINES "A" AND "B" AS
LOCATED BY THE N. Y., L. & W. RY., AND AS PRO-
POSED BY THE N. Y., LAKE ERIE & W. AND L. S. &
M. S. RAILROADS.

Line "A."

	As located by N. Y., L. E. & W.	As proposed by N. Y., L. E. and L. S. & M. S. R. R.	Difference.	Extra cost in- volved by the N. Y., L. E. & W. and L. S. & M. S. Ry. proposed al- teration.	
Excavation....	43,640.00 c. yds.	289 700.00 c. yds.	246,060.00 c. yds.	\$ 98,424.00	2921
Masonry.....	1,553.00 "	14,456.00 "	12,903.00 "	141,933.00	
Piling.....	5,250.00 lin. ft.	115,587.00 lin. ft.	110,337.00 lin. ft.	33,101.10	
Timber.....	36,100.00 ft. B. M.	694,056.00 ft. B. M.	657,956.00 ft. B. M.	29,608.02	
Bridges.....		1 of 55 ft. span,	1 @ 55 ft. span,	3,400.00	
".....		1 of 105 ft. span,	1 @ 105 ft. span,	10,500.00	
".....		3 of 140 ft. span,	3 @ 140 ft. span,	42,000.00	
".....		2 of 100 ft. span,	2 @ 100 ft. span,	20,000.00	
".....		1 of 80 ft. span,	1 @ 80 ft. span,	7,000.00	
".....		2 of 63 ft. span,	2 @ 63 ft. span,	8,800.00	
".....		2 of 127½ ft. span,	2 @ 127½ ft. span,	24,000.00	
".....		1 of 72 ft. span,	1 @ 72 ft. span,	5,500.00	
Total.....				\$424,266.12	

Line "B."

Excavation....	9,084.00 c. yds.	74,100.00 c. yds.	65,016.00 c. yds.	\$ 26,006.40	
Masonry.....	173.00 "	1,390.00 "	1,217.00 "	13,387.00	
Piling.....		18,000.00 lin. ft.	18,000.00 lin. ft.	5,400.00	2922
Timber.....		121,150.00 ft. B. M.	121,150.00 ft. B. M.	540.75	
Bridges.....		1 of 75 ft. span,	75 ft. span,	7,000.00	
".....		1 of 95 ft. span,	95 ft. span,	9,500.00	
Total.....				\$ 66,745.15	

RESPONDENT'S EXHIBIT No. 26.

LINE "A."

	Difference in feet between ground and grade line of located line. Top of rail.	Difference in feet between ground and grade line of amended lo- cation. Top of rail.	Difference in feet between the two grade lines, located and amended. Amended line below lo- cated line.	
Stations.				2923
150.....	3.2	3.0	—2.5	
151.....	3.5	4.0	—1.5	
152.....	3.8	6.0	+	
			—	
			Amended line above loca- ted line.	
153.....	4.3	7.2	+ 1.20	
154.....	4.5	9.0	+ 2.3	
155.....	4.5	10.5	+ 3.8	

2924	156	.....	4.7	11.4	+ 5.0
	157	.....	5.0	13.0	+ 6.0
	158	.....	5.2	14.0	+ 7.4
	159	.....	5.5	16.0	+ 8.4
	160	.....	5.5	17.0	+10.0
	161	.....	5.5	18.3	+11.0
	162	.....	4.7	19.0	+12.0
	163	.....	4.5	22.0	+13.2
	164	.....	4.5	22.2	+15.0
2925	165	.....	5.0	22.2	+16.0
	166	.....	4.5	23.5	+17.0
	167	.....	5.7	25.5	+18.0
	168	.....	6.7	27.0	+19.0
	169	.....	7.1	29.0	+20.0
	170	.....	6.8	29.0	+21.0
	171	.....	5.5	29.0	+22.0
	172	.....	5.6	30.0	+22.8
	173	.....	6.5	32.0	+23.8
2926	174	.....	6.5	33.0	+24.5
	175	.....	7.0	34.2	+25.5
	176	.....	7.5	35.8	+26.5
	177	{ Branch }	1.5	32.0	+26.0
	178	{ Tracks }	1.5	30.0	+25.7
	179	.....	9.5	34.0	+25.4
	180	{ Main track Michigan Southern, }	L. S. & M. S. Located Line. 0.0 L. S. & M. S. Amended Location.	35.0	+25.5
2927	181	.....	7.5	28.0	+25.4
	182	.....	6.5	35.0	+25.6
	183	.....	6.5	33.0	+25.0
	184	.....	6.5	32.0	+24.1
	185	.....	6.5	31.0	+23.1
	186	.....	6.0	30.0	+22.1
	187	.....	5.7	28.0	+21.0
	188	.....	5.5	27.0	+20.1
	189	.....	5.5	25.5	+19.1
	190	.....	4.5	25.0	+19.1

191.....	3.7	26.0	+19.1	2928
192.....	6.5	28.0	+19.2	
193.....	7.5	28.0	+19.3	
194.....	7.2	28.0	+19.4	
195.....	5.8	27.0	+19.5	
196.....	5.3	27.0	+19.6	
197.....	5.0	27.0	+19.7	
198.....	5.4	28.0	+19.8	
199.....	6.0	26.5	+19.9	
200.....	6.0	27.0	+20.0	2929
201.....	6.5	27.0	+20.0	
202.....	6.0	27.5	+20.0	
203.....	5.5	27.0	+20.0	
204.....	5.5	27.2	+20.0	
205.....	5.0	21.3	+20.0	
206.....	5.0	28.0	+19.8	
207.....	5.3	26.0	+19.6	
208.....	27.0	26.0	+19.4	
209.....	30.0	{ Buffalo } River. } 50.0	+19.4	2930
210.....	7.0	41.0	+19.4	
211.....	6.0	26.5	+19.4	
212.....	5.8	26.0	+19.0	
213.....	5.0	24.0	+18.3	
214.....	7.0	25.5	+17.4	
215.....	5.5	24.0	+17.0	
216.....	7.0	24.0	+16.3	
217.....	8.0	24.5	+15.7	2931
218.....	8.0	24.0	+15.0	
219.....	5.0	21.5	+14.3	
220.....	4.5	18.2	+13.5	
221.....	3.5	18.0	+12.8	
222.....	2.0	16.0	+12.0	
223.....	3.0	15.0	+11.6	
224.....	4.3	16.0	+10.6	
225.....	5.0	16.5	+ 9.7	

2932	226.....	3.0	16.0	+	9.0
	227.....	2.5	13.0	+	8.6
	228.....	3.0	12.0	+	8.0
	229.....	3.0	11.0	+	7.3
	230.....	2.5	10.8	+	6.7
	231.....	2.5	9.2	+	6.0
	232.....	2.0	9.0	+	5.3
	333.....	2.0	8.0	+	4.6
	234.....	2.0	7.6	+	4.0
2933	235.....	2.5	7.0	+	3.3
	236.....	3.0	6.0	+	2.8
	237.....	1.5	5.0	+	2.0
	238.....	1.5	4.0	+	1.3
	239.....	1.5	4.0	+	0.7
	240.....	1.5	3.0	+	0.0

LINE "B."

	Stations.	Located line. Difference in feet between ground and grade line. Top of rail.	Amended location. Difference in feet between ground and grade line. Top of rail.	Difference in feet between the two grade lines, located and amended.
2934	183+94.....	7.0	31.5	+24.8
	184.....	7.2	31.3	+24.5
	185.....	7.0	30.3	+23.5
	186.....	7.0	29.0	+22.5
	187.....	6.5	28.0	+21.5
	188.....	6.5	27.0	+20.5
	189.....	6.0	25.5	+19.7
2935	190.....	6.0	25.0	+18.5
	191.....	6.0	23.5	+17.5
	192.....	6.0	23.0	+16.5
	193.....	6.0	22.0	+15.8
	194.....	5.5	21.0	+15.0
	195.....	5.0	20.0	+14.0
	196.....	4.0	19.5	+13.1
	197.....	4.0	18.5	+12.1
	198.....	5.0	16.5	+11.2

199.....	4.0	16.0	+ 10.5	2936
200.....	5.0	15.0	+ 9.7	
201.....	4.0	14.0	+ 8.8	
202.....	2.0	13.0	+ 7.9	
203.....	2.5	12.0	+ 7.0	
204.....	3.0	11.8	+ 6.1	
205.....	4.0	11.0	+ 5.2	
206.....	4.0	10.0	+ 4.3	
207.....	4.0	8.5	+ 3.5	
208.....	2.0	7.5	+ 2.2	2937
209.....	4.0	6.5	+ 1.3	
209+.....	5.0	6.0	+ 1.0	

RESPONDENT'S EXHIBIT No. 27.

This indenture, made the first day of January in the year of our Lord one thousand eight hundred and sixty-nine, between George R. Babcock and Mary B., his wife, 2938 of the city of Buffalo, party of the first part, and the Buffalo and Erie Railroad Company, a corporation created and existing by the laws of the State of New York, of the second part, witnesseth, that the said party of the first part, for and in consideration of the sum of three thousand and five hundred dollars, lawful money of the United States of America, to them in hand paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, have granted, bar- 2939 gained, sold, remised, released, aliened, conveyed and confirmed, and by these presents do grant, bargain, sell, remise, release, alien, convey and confirm, unto the said party of the second part, and to its successors or assigns, forever, all that certain piece or parcel of land situate, lying and being in the thirteenth ward of the city of Buffalo, county of Erie and State of New York, and being known and distinguished upon Lovejoy and Emslie's map and survey of a part of the Buffalo Creek

2940 Reservation, adjoining the former boundaries of the said city of Buffalo, as lot number (185) one hundred and eighty-five, containing, according to said map and survey, four acres and ninety one-hundredths of an acre, be the same more or less subject, however, to the rights of the Buffalo and State Line Railroad Company, in and to one acre and twenty-four one-hundredths of an acre of said lot heretofore taken and used by said company for the purposes of its road, also subject to the rights of the

2941 public in and to a certain highway, which lies upon the southerly bounds of said premises, and known as Sandusky street, and excepting and reserving all that part of said lot number 185 lying westerly of a line distant sixty-six feet easterly of the reservation line and parallel therewith, and northerly of the southwesterly line of the Buffalo and State Line Railroad Company's lands, and also excepting and reserving all that part of said lot number 185 lying westerly and southwesterly of the

2942 lands of the said Buffalo and State Line Railroad Company, as the said last named two parcels of said lot, hereby excepted and reserved, were conveyed by the party of the first part to the Buffalo and New York City Railroad Company, by deed bearing date December 22, 1852.

2943 Together with all and singular the tenements, hereditaments, and appurtenances thereunto belonging, or in any-wise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, dower and right of dower, claim and demand whatsoever, of the said party of the first part, either in law or equity, of, in and to the above bargained premises, with the said hereditaments and appurtenances: to have and to hold the said premises, as above described, with the appurtenances, unto the said party of the second part, and to its successors and assigns forever. And the said George R.

Babcock, for himself and for his heirs, executors and administrators, do covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that the above bargained premises, in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against all and every person or persons, lawfully claiming or to claim the whole or any part thereof, he will forever warrant and defend. 2944

In witness whereof, the party of the first part, have hereunto set their hands and seals the day and year first above written. 2945

Signed, sealed and delivered in presence of

(Rev. stamp, \$3.50.)

GEORGE R. BABCOCK, [L. S.]

MARY B. BABCOCK. [L. S.]

(Duly acknowledged January 1, 1869.)

2946

OPINION OF THE COMMISSION.

McALPINE, Commissioner.

In the matter of the decision of the route for the crossing of the New York, Lackawanna and Western Railway Company of the railroad of the Lake Shore and Michigan Southern and of the New York, Lake Erie and Western Railroad companies, at or near Sandusky street, Buffalo, in which the commissioners have decided to affirm the original route of the respondent: 2947

They consider that justice to the parties and to the eventuality of an appeal, requires that a statement of the reasons which have governed them in the making of their decision should be given.

The original route proposed by the respondent was laid over lands which were from two to seven feet below the grades of their tracks, and crossed the two roads of the petitioners at the same level of tracks.

2948 The proposed altered route of the petitioners is nearly two miles in length, but diverges only 150 feet at right angles, and crosses the petitioners' roads at an elevation of about twenty feet clear space, and requires an embankment or tressel-work of twenty to thirty feet in height for a considerable part of the way over land nearly the same elevation as that of the original route.

The commissioners are of the opinion that the route proposed by the petitioners will cause greater damage or
 2949 injury to land than the route designated by the company would cause, unless the subsequent commission should decide upon an over-head crossing on the original route, in which case the whole of the damage and injury to land, including that which the petitioners have purchased for the extension of their yard, would be greater upon the original route than upon the altered route. As the case was presented to the commissioners they would be prohibited by section 22 of the general railroad law from
 2950 adopting the altered route proposed by the petitioners.

They are also of the opinion that the proposed route of the petitioners, which requires an increased elevation of some twenty-one feet higher than the original route, with its ascending and descending grades so near the terminus of the respondent's road, will substantially change the general route adopted by the respondent for passing through that portion of the city to reach
 2951 its proposed terminus, and consequently that the commissioners are prohibited from adopting the altered route.

The commissioners are also of the opinion that the court has reserved to itself the authority to decide all of the questions in regard to the manner of the crossing, and in particular of deciding whether the same shall be made by a grade or overhead crossing, as provided in section 28, sub div. 6 of the said act, and that we are not at liberty to decide indirectly what the court has reserved

and the law prescribes shall be done by another authority. 2952

The obvious design of the petitioners by the long route and small divergence of the altered route is to obtain an overhead crossing by means of this board exercising a duty which the law declares shall be performed by another board.

The commissioners are of the opinion that another board, appointed under section 28 of the said law, will be at liberty to direct that an over-head crossing shall be made at the route which had been adopted, and such an order for an over-head crossing, built, as it might be, so as to do no material injury, will relieve the petitioners from nearly all of the objections which have been offered, and that, therefore, their affirmation of the original route will not bear onerously upon the use of the petitioners' railroads, provided the new commission shall direct that a suitable plan of bridge shall be made for the same, and therefore the commissioners are compelled to affirm the original route. 2953 2954

A great deal of testimony and argument has been introduced to show the increased danger to human lives and limbs, damage to land and property, and the delays of the crossing of the tracks of one railroad by those of another on the same level.

To prevent the inferences that the commissioners by their actions in this case have approved of a grade crossing in preference to one over-head, they now state that in their opinion no such grade crossing should be made wherever the circumstances of the case will permit an avoidance thereof. 2955

The commissioners also deem it proper to state, that many embarrassments would have been avoided in this case if they had been authorized to have considered the question as provided in section 28, as well as of section

2956 22, of the said law, and still more so, if they had been authorized to make some moderate modifications in both or either of the routes presented.

STATE OF NEW YORK, }
COUNTY OF ERIE, } ss.

I, Robert B. Foote, Clerk of said County of Erie, do
2957 hereby certify that I have compared the annexed copies
of the petition, notice and survey, map and profiles, and
the proofs of service thereof, of the order of Mr. Justice
Barker, appointing commissioners, of the oath, decision,
certificate and opinion of the commissioners, of the
exhibits and testimony taken before the commissioners,
and of the notice of appeal from such decision with the
originals of the same, and their indorsements entered
and on file in this office, and find the same to be true
transcripts of and from said originals, and the whole of
2958 each thereof.

In witness whereof I have hereunto set my hand and
affixed the seal of said county, at Buffalo, this twentieth
day of September, 1881.

[L. s.]

ROBERT B. FOOTE,
County Clerk.

At a General Term of the Supreme Court, held in and 2959
for the Fourth Judicial Department, at the Court
House, in the City of Rochester, in the County of
Monroe, on the twenty-eighth day of October, 1881:

Present—SMITH, P. J., and HARDIN and DWIGHT, J. J.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE AND STATE OF
NEW YORK, AND THE ROUTE TO WHICH
IT IS PROPOSED TO ALTER THE SAME.

No. 2.

The New York, Lake Erie and Western Railroad
Company having filed its petition in this proceeding, 2960
praying for the appointment of commissioners to exam-
ine the proposed route of the New York, Lackawanna
and Western Railway Company, in the County of Erie,
and the route to which it is proposed to alter the same,
and, upon the hearing of such petition, Delavan F.
Clark, Edward L. Stevenson, and William J. McAlpine,
a practical civil engineer, having been appointed com-
missioners in accordance with the prayer thereof, and
such commissioners after hearing the parties having,
pursuant to the statute in such case made and provided, 2961
made, certified and filed their decision and determina-
tion whereby they affirmed the route originally desig-
nated, and said The New York, Lake Erie and Western
Railroad Company, having within twenty days there-
after appealed to this court from such decision, and such
appeal having been brought on for argument and argued
on a prior day of this term, and after hearing Mr. John

2962 G. Milburn, of counsel for the appellant, and Mr. Sherman S. Rogers and Mr. Franklin D. Locke, of counsel for the respondent, and due deliberation having been had thereon :

Now, therefore, upon motion of Bowen, Rogers & Locke, attorneys for the respondent, it is ordered and adjudged :

2963 That the decision and determination of said commissioners be, and the same hereby is in all things affirmed, and that the said route proposed by the said The New York, Lackawanna and Western Railway Company be, and the same hereby is affirmed, and that said appellant pay to the attorneys for said respondent, the costs of said appeal, as the same shall be adjusted.

SUPREME COURT.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE,

Appellant,

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE, NEW YORK STATE,

Respondent.

No. 2.

2964

Please take notice, that the petitioner in the above-entitled proceeding, The New York, Lake Erie and Western Railroad Company, hereby appeals to the Court of Appeals from the judgment and order of the General Term of the Supreme Court therein, entered in the Office of the ~~Clerk of the County of~~ Erie, on the

sixteenth day of November, 1881, which order and judgment affirms the decision and determination of the commissioners appointed in said proceeding; and also affirms the route proposed by the said respondent, The New York, Lackawanna and Western Railway Company, with costs to be adjusted, and from the whole and every part of said judgment and order.

Dated November 26, 1881.

SPRAGUE, MILBURN & SPRAGUE, 2967

Attorneys for the Petitioner and Appellant,
The New York, Lake Erie and Western Railroad Co.,
377 Main street, Buffalo, N. Y.

TO the CLERK OF THE COUNTY OF ERIE, and to BOWEN, ROGERS & LOCKE, Esqs., Attorneys for the Respondent, The New York, Lackawanna and Western Railway Company; MARSHALL, CLINTON & WILSON, Attorneys for The New York Life Insurance and Trust Company, 2968 Trustee; NELSON K. HOPKINS, Attorney for J. S. Wadsworth Estate; GREENE, McMILLAN & GLUCK, Attorneys for The Lake Shore & Michigan Southern Railway Company, and E. C. HAWKS, Attorney for the City of Buffalo.

STATE OF NEW YORK, }
ERIE COUNTY CLERK'S OFFICE, } ss.

I, Robert B. Foote, clerk of said county, do hereby 2969 certify that I have compared the annexed copy papers on appeal to General Term, and the map exhibits thereto attached (filed in this office, October 8, 1881), order of General Term (filed November 16, 1881), notice of appeal to the Court of Appeals (filed December 8, 1881), and copy indorsements thereon, with the respective originals thereof and their indorsements entered and on file in this office; and find the same to be true transcripts

2970 of and from the said originals, and the whole of each thereof.

In witness whereof, I have hereto set my
[L. S.] hand and affixed the seal of said county at
Buffalo, this 9th day of December, 1881.

J. E. EWELL,

Deputy Clerk.

SUPREME COURT.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

No. 1.

2971

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE CITY OF BUFFALO.

IN THE MATTER OF THE APPLICATION OF
THE LAKE SHORE AND MICHIGAN
SOUTHERN RAILWAY COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

2972

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE CITY OF BUFFALO.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

2973

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY.

No. 2.

IN THE MATTER OF THE APPLICATION OF
THE NEW YORK, LAKE ERIE AND
WESTERN RAILROAD COMPANY,
FOR THE APPOINTMENT OF COMMISSION-
ERS TO EXAMINE THE PROPOSED ROUTE

No. 3.

OF

THE NEW YORK, LACKAWANNA AND
WESTERN RAILWAY COMPANY, IN
THE COUNTY OF ERIE.

*Appeals by the several Petitioners from the Decisions
of Commissioners appointed in the several Proceed-
ings above entitled.*

MR. McMILLAN and MR. MILBURN, *for Appellants.*
MESSRS. ROGERS & LOCKE, *for Respondents.*

DWIGHT, J.:

The appeals in these matters present to us for review ²⁹⁷⁵
only the decision of the commissioners appointed in the
several applications under sec. 22 of the General Rail-
road Act, as amended by the act of 1871. (Laws of
1871, chap. 560, sec. 1.)

They do not present for review the order of the jus-
tice of this court, appointing such commissioners, and
therefore do not raise the question whether, in the lan-
guage of the statute, sufficient cause existed for such
appointment under sec. 22, or whether a full and com-
plete remedy and means of determining all the ques- ²⁹⁷⁶
tions involved as between railroad companies, one of
which seeks to carry its line across the line of the other,
was or was not provided by the legislature by subdivi-
sion 6 of sec. 28 of the same act, as amended by the
act of 1880 (Laws of 1880, chap. 583, sec. 1). And it
was assumed or conceded on the argument, that the pro-
visions of the last mentioned statute (sec. 28) are still
available to ~~either party, notwithstanding the proceed-~~

ings taken and determination had under sec. 22. Upon these appeals we are restricted to a review of the decision of the commissioners affirming the route proposed by the respondent in the petition, and are confined, as the commissioners themselves were, to the single alternative in each case of affirming the route proposed by the respondent, or adopting that proposed by the petitioners.

The decision thus presented for review is, in each case, that of a commission composed of "three disinterested persons, one of whom is a practical civil engineer," who have personally examined the two proposed routes, have taken voluminous testimony of experts and others bearing upon the questions involved, and who have in three of the cases unanimously, and in the other case by the judgment of a majority including that of the practical county engineer, affirmed the route proposed by the respondents. This was, as by the statute it was required to be, a decision only in favor of one as against the other of the proposed routes.

In three of the cases the commissioners were unanimous in the opinion that a route, deviating to some extent from either of those proposed, would be more eligible than either, but they had no power to decide in favor of such a new route. In the first two cases, moreover, the commissioners found themselves prevented, as their opinion shows, from adopting the route proposed by the petitioners, whatever might have been their judgment of its comparative merits, by the terms of the statute under which they acted (sec. 22) which forbids that any alteration shall be made "which shall cause a greater damage or injury to lands than the route designated by the company would cause," the fact being found by them that the route proposed by the petitioners would cause such greater injury than that proposed by the respondents, unless the line upon the latter route

should be carried over the tracks of the petitioners by 2981 an over-head crossing which was not the grade indicated in the profile of the route so proposed.

No error of law is pointed out on the part of the commissioners nor do we discover any; and we do not feel called upon, sitting here without the benefit of a personal examination of the routes proposed, without the aid of scientific advice, to substitute our judgment upon questions of fact, involving difficult questions of engineering for that of the practical civil engineer and his associates who composed the commission.

2982

Whatever powers may be possessed and exercised by a commission appointed under sec. 28 to change the location, or grade or manner of the several crossings, it is certain that neither we nor the commission, whose decision we are reviewing, have or had any power to alter either of the proposed routes in either of these respects.

We are forced, therefore, acting within the very limited powers which we possess on these appeals, to an affirmance of the several decisions of the commissioners and the several routes affirmed by them.

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